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GEOLOGICAL SURVEY OF ALABAMA
WALTER B. JONES, STATE GEOLOGIST

Information Series 20

INTERIM REPORT ON GROUND-WATER STUDY IN COLBERT COUNTY, ALABAMA

By Hobart B. Harris, Gerald K. Moore and Lawson V. Causey

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Prepared by the
United States Geological Survey
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University, Alabama

1960





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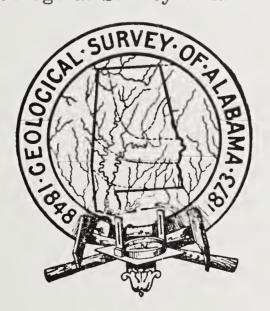
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University, Alabama
1960



LETTER OF TRANSMITTAL

University, Alabama September 14, 1960

Honorable John M. Patterson

Governor of Alabama

Montgomery, Alabama

Sir:

I have the honor to transmit herewith the manuscript of a report entitled "Interim Report on Ground-Water Study in Colbert County, Alabama" by Hobart B. Harris, Gerald K. Moore, and Lawson V. Causey, with the request that it be printed as Information Series 20 of the Geological Survey of Alabama.

Respectfully,

WALTER B. JONES

State Geologist

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INTERIM REPORT ON GROUND-WATER STUDY IN COLBERT COUNTY, ALABAMA

By Hobart B. Harris, Gerald K. Moore, and Lawson V. Causey

INTRODUCTION

In Colbert County, Ala., large quantities of ground water are used for municipal, industrial, agricultural, and domestic purposes. Increased use of ground water during the past 10 years has created supply problems in Tuscumbia, Cherokee, and Littleville. Droughts have intensified the problems in recent years and these municipalities, as well as residents in other parts of Colbert County, have requested basic ground-water data to aid in development of additional ground-water supplies.

Location and Extent of Area

Colbert County is in northwestern Alabama (fig. 1) and comprises an area of 618 square miles. It is bounded on the north by Lauderdale County, on the east by Lawrence County, on the south by Franklin County, and on the west by the State of Mississippi.

Purpose and Scope of Investigation

The purpose of the detailed ground-water investigation is to determine the quality, quantity, and availability of ground-water in the county and to relate its occurrence and movement to the geology. The work consists of the following main categories:

- 1. Inventory of selected drilled and dug wells to determine their location and distribution, depth, construction, water level, yield, use, and source of supply.
- 2. Inventory of selected springs to determine their location and distribution, discharge, water temperature, use, improvements, and source of supply.
- 3. Test drilling in areas where geologic and hydrologic data are needed.

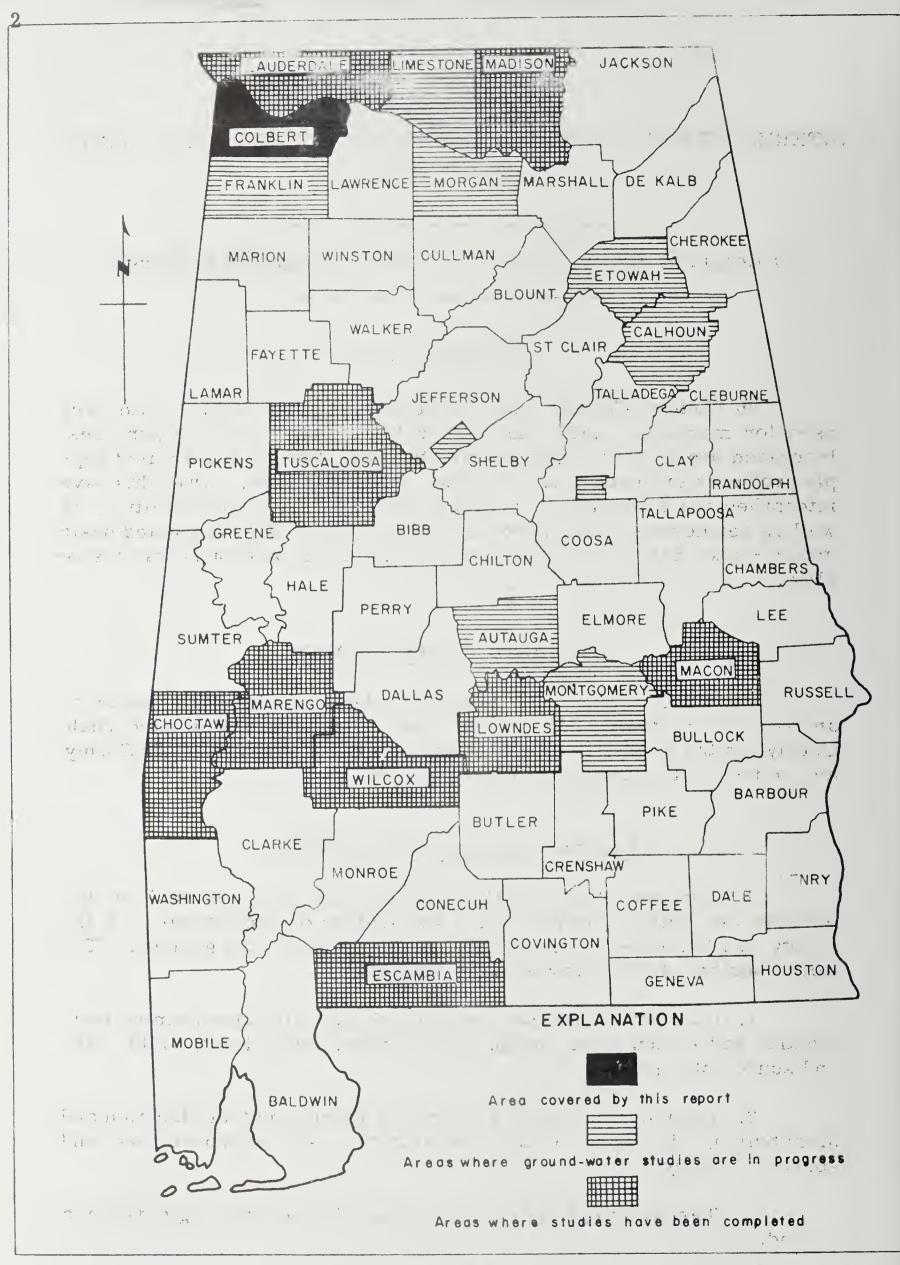


Figure 1- Index map of Alabama showing area covered by this report and areas in which other ground-water studies are in progress.

- 4. Determination of the thickness, character, distribution and structure of the rock formations; preparation of a detailed geologic map, geologic cross sections, subsurface geologic structure maps, and an isopach map showing thickness of unconsolidated material overlying bedrock.
- 5. Electric logging of all test wells and selected privately owned wells to aid in the location of solution cavities, and in stratigraphic correlation.
- 6. Periodic measurement of water levels in wells finished in the principal water-bearing beds, and operation of recording gages in key wells to determine the seasonal fluctuations and the effect of large scale withdrawals on water levels. From these data, maps will be prepared showing the position of the water table during periods of annual high and low ground-water levels.
- 7. Pumping tests on selected wells to determine the hydraulic characteristics of principal water-bearing beds.
- 8. Determination of the chemical quality of water from the principal water-bearing formations.

This report is the second of a series of reports that are designed to supply information as each main phase of the study is completed. The first report contained data on 95 springs in Colbert and Lauderdale Counties, Alabama (Harris, 1957). This report contains data on 917 wells and 38 additional springs in Colbert County. A final comprehensive and interpretive report is also being prepared and will be published when the study is completed.

The ground-water investigation in Colbert County was begun on July 1, 1955, by the United States Geological Survey in cooperation with the Colbert County Board of Revenue and the Geological Survey of Alabama. The work is under the direct supervision of W. J. Powell, district geologist in charge of ground-water investigations in Alabama.

Well-Numbering System pendant societies of the

The numbering of wells in Colbert County is based on the Federal system of land subdivision, which provides for the division of public land into townships approximately 36 square miles in area. In the well-numbering system used in this report Colbert County is divided into the compact of the control of th

townships designated by letters, in alphabetical order, beginning with "A" in the northeast township (fig. 2). The wells and springs within each township are numbered consecutively, each number prefixed by the letter identifying the township, for example, B-1, B-2, B-3.

Acknowledgments

Acknowledgment is made to the residents of Colbert County who furnished information on wells, use of water, and other data, and for making wells available for pumping tests and electric logging. The authors are particularly grateful for the assistance and cooperation given by Mr. Gresham Hale, chairman, and other members of the Colbert County Board of Revenue. The Reynolds Metal Co. supplied logs and other data concerning industrial wells on their property.

GEOGRAPHY

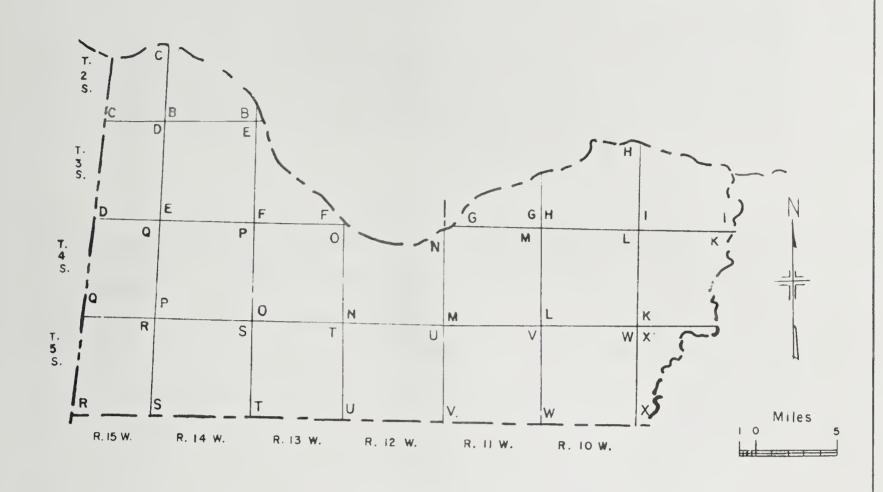
Physiography and Drainage

Most of Colbert County is in the Highland Rim section of the Interior Low Plateaus physiographic province. The northern and north-eastern part of the county is flat to gently rolling with only slight relief except along the south bluffs of the Tennessee River, where the relief ranges from 25 to 125 feet. The southwestern part of Colbert County is in the East Gulf Coastal Plain section of the Coastal Plain province. The streams in this area have eroded through the soft Coastal Plain sediments and into the underlying consolidated rocks, producing the most rugged topography in the county. The southern part of the county is a hilly upland terminated at the northern edge by an escarpment about 200 feet high. Locally this upland is known as "The Mountain."

Colbert County is drained by Bear, Buzzard Roost, Rock, Cave, Little Bear, Spring, Poplar, and Town Creeks, which flow generally northward to the Tennessee River, which forms the northboundary of the county. Surface drainage is poorly developed in eastern Colbert County, and most of the precipitation drains to sinkholes.

Climate

Colbert County is in an area of mild humid climate. Temperature records from Muscle Shoals are available for the 69-year period, 1890-



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1959, and precipitation records are available for the 75-year period, 1884-1959. The average annual precipitation at Muscle Shoals is 51.67 inches and the average annual temperature is 60°F. Most of the precipitation is in the form of rain, but snow generally occurs about twice a year. The highest average monthly precipitation, 5.71 inches, occurs in March, and the lowest, 2.85 inches, occurs in September. The highest average monthly temperature, 79.6°F, occurs in July, and the lowest, 41.9°F, in January. Freezing temperatures generally do not last more than two consecutive days.

GEOLOGY

General Stratigraphy and Structure

Most of the rocks exposed in Colbert County are of Mississippian age and consist of limestone, cherty limestone, sandstone, shale, and chert. The limestone beds crop out along the middle and lower courses of the larger streams and in the bluffs along the Tennessee River. Massive sandstones cap most of the upland areas in the southern part of the county, and shales occur near the southern boundary.

Most of the hilly uplands in the western and southern parts of the county are capped by beds of sand, gravel, and clay of Cretaceous age. The beds range in thickness from 5 to 75 feet thick; the thickest deposits occurring in the western part of the county.

The rocks dip to the southwest about 30 feet per mile. Steeper dips associated with structural features occur south of Wilson Dam, and near Cherokee and Allsboro. Joints and fractures are numerous throughout the county and strike northwest-southeast at about right angles to the regional dip. They provide openings for the recharge, circulation, and storage of ground water.

Geologic Formations and their Water-Bearing Characteristics 1/

The oldest formation exposed in Colbert County is the Fort Payne chert of Mississippian age which consists of dense, hard limestone that contains large quantities of hard chert in the form of nodules, lenses,

^{1/} The stratigraphic classification used in this report is that of the Geological Survey of Alabama and differs somewhat from that of the U.S. Geological Survey.

and thick massive beds. The thickness of the Fort Payne chert ranges from 184 to 200 feet. It crops out in the bluffs along the Tennessee River from Sheffield eastward to the county line and from north of Cherokee west to the State line. The Fort Payne chert contains numerous solution cavities. Most of these openings occur at a depth of about 100 feet and serve as conduits for movement and storage of large quantities of ground water.

The Fort Payne chert is a productive aquifer in Colbert County and supplies large quantities of water to many municipal, industrial, and private wells (table 1, wells H-52 to H-59 and H-22). Several large springs discharge water from the Fort Payne chert in Colbert County. For example, a spring owned by Leonard Pruitt (I-48) flowed 730 gpm (gallons per minute) on November 28, 1955 from an opening in the Fort Payne.

The Tuscumbia limestone of Mississippian age conformably overlies the Fort Payne chert and consists of about 200 feet of hard gray massive limestone; the lower half contains considerable dark-gray chert. The Tuscumbia crops out in the bluffs along the Tennessee River from a few miles east of Wilson Dam to the Mississippi State line and underlies most of the northern half of the county.

Cavities are extensive in the Tuscumbia limestone at depths of 100 feet or less. They supply large quantities of ground water to wells and springs for municipal, industrial, and domestic use. Tuscumbia Spring (M-20) at Tuscumbia, which issues from a fracture opening in the Tuscumbia limestone, is a source of supply for most of the town's water. Well M-23, which obtains water from cavities in the Tuscumbia, is pumped almost continuously at a rate of 600 gpm and is the source of supply for most of the industrial requirements at the Robbins Tile Co.

The Ste. Genevieve limestone, Bethel sandstone, Gasper formation, Cypress sandstone, and the Golconda formation, undifferentiated, of Mississippian age overlie the Tuscumbia limestone in ascending order and consist of about 180 feet of shale, limestone, and sandstone. These formations probably contain a few openings along joints and bedding planes through which small quantities of ground water move. A few wells drilled into the Gasper and Ste. Genevieve yield water that is highly mineralized and therefore is objectionable for domestic use (W-20). The Golconda is not an aquifer in Colbert County. The Cypress and Bethel sandstones are too thin and discontinuous to be of importance as aquifers.

The Hartselle sandstone of Mississippian age overlies the Golconda formation and crops out in the hilly upland in the southern part of

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Colbert County. It consists of 30 to 120 feet of light-tan fine-grained argillaceous massive sandstone which contains small openings along fractures, joints, and bedding planes. The Hartselle is well cemented and does not yield large quantities of water to wells. Well V-83 at Little-ville, which obtains water from the Hartselle, is pumped at the rate of 6 gpm, the largest yield known for a well tapping the Hartselle. The average yield is less than 2 gpm.

The Bangor limestone, also of Mississippian age, overlies the Hartselle sandstone and crops out in an east-west band about 4 miles wide just north of the Colbert-Franklin County line. It is absent in the extreme western and eastern parts of the county. The Bangor is composed mostly of shale or calcareous hale and a few massive beds of limestone. Small quantities of water have been developed from openings along joints and fractures in the limestones. Wells U-20, U-21, U-39, and U-41 (table 1) tap the Bangor; U-39 supplies water to the Oak Grove school, which he an enrollment of 115 students. The formation is not extensive in Colbert County, and large supplies of ground water generally are not available from the Bangor.

Sand, gravel, and clay of the Tuscaloosa group of Cretaceous age cover most of the southern and western parts of Colbert County. The thickness of these deposits ranges from 5 to 75 feet. Wells developed in the permeable beds of sand and gravel supply adequate water for domestic or stock use. The yields of the wells range from 5 to 10 gpm.

GROUND WATER

Source and Occurrence

Ground water is the water beneath the land surface in the zone of saturation. In Colbert County ground water is derived mainly from rain falling on the earth's surface and from the melting of occasional snowfalls during the winter.

Water seeping downward from the surface first enters the zone of aeration, which lies between the land surface and the zone of saturation. A part of the water entering the zone of aeration is used to satisfy soil-moisture requirements and is held in this zone by molecular forces, which counteract the force of gravity and tend to hold or retard the downward movement of this water, and a part ultimately percolates downward to the zone of saturation.

The upper surface of the saturated zone, where not confined by an impermeable layer, is called the water table. Water in the saturated zone moves slowly downward and laterally through the rocks in response to gravity. The direction and rate of movement is controlled mainly by topography, distribution of recharge and discharge, geologic structure of the rocks, and the number, size, shape, and interconnection of the voids in the rocks.

Ground water in Colbert County occurs in permeable beds in the weathered material overlying bedrock, in sand and gravel beds in the Tuscaloosa group, and in openings in the limestone, chert, and sandstone.

Ground water in the weathered material overlying bedrock usually occurs in beds of chert gravel or sand 1 to 3 feet thick near the contact with bedrock. Most of the shallower dug wells in the county are finished in the weathered material and the supplies are usually adequate for most domestic requirements.

Southern and western Colbert County is covered by gravel and sand deposits of the Tuscaloosa group that are more porous and permeable than the weathered material overlying the bedrock. In places large quantities of water probably can be obtained from these deposits.

The massive limestones that underlie Colbert County contain many fractures and cavity openings, which serve as conduits for the movement of ground water. Where the fracture and cavity systems are extensive, very large quantities of water can be obtained from wells. However, test drilling is generally necessary in order to locate the openings. Springs occur where the water-bearing openings intersect the land surface, and they are an important source of water for municipal, agricultural, and domestic supplies in Colbert County (pl. 1).

Fluctuations of Water Levels and Spring Discharges

Water levels in wells fluctuate in response to precipitation or a lack of precipitation, discharge from wells or springs, changes in barometric pressure, earth and ocean tides, earthquakes, and loading of the land surface.

Since 1956 monthly water-level measurements have been made in six observation wells, and monthly discharge measurements have been obtained for three springs. Daily water-level measurements have been

made in eight wells, and daily discharge measurements have been obtained for Tuscumbia Spring. The fluctuations in water level in wells M-21 and H-67 are shown in figure 3. These data show a close correlation of water-level fluctuations and precipitation; the lowest water levels occur during periods of minimum rainfall and the highest during the rainy season. The discharge from Tuscumbia Spring (M-20), Baker Bubbling Spring (I-5), and Parker Spring (F-7), and precipitation at Muscle Shoals are shown in figure 4.

Quality of Water

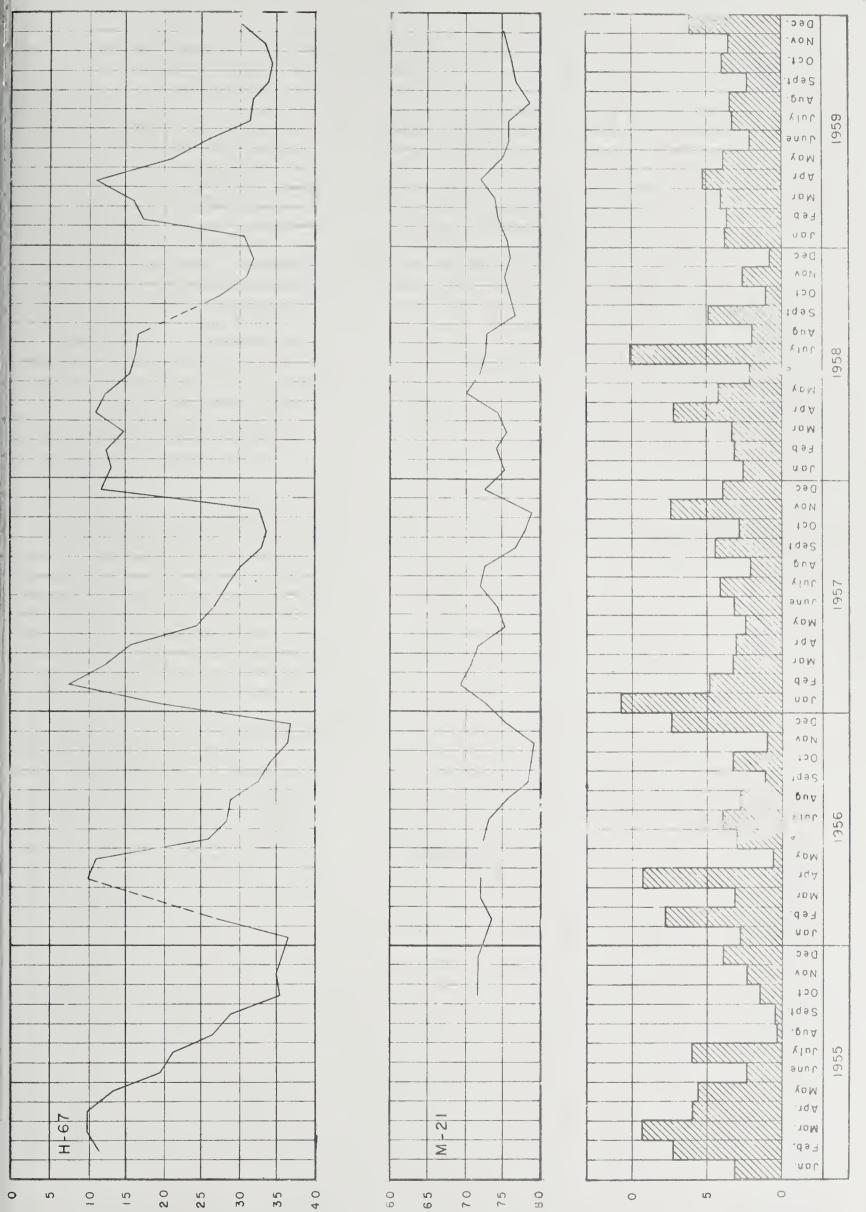
The amount and kind of dissolved matter contained in ground wa-AND THE WAR TO SEE THE PROPERTY. ter differ from place to place as a result of many factors such as the type and amount of organic material in the soil zone, the kind of rocks through and over which the water moves, the length of time the water is in contact with the soil or rocks, and the temperature of the water. Chemical analyses of samples from 32 wells and springs are tabulated in table 2. The results of these analyses indicate that the hardness of water in the Fort Payne chert ranges from 60 to 173 ppm (parts per million) and averages 98 ppm; iron content, 0.0 to 0.02 ppm; sulfate, 0.5 to 16 ppm; chloride, 1.0 to 22 ppm; and fluoride, 0.0 to 1.1 ppm. Hardness of water from the Tuscumbia limestone ranges from 112 to 282 ppm and averages 189 ppm; iron content, 0.0 to 0.23 ppm; sulfate, 0.8 to 106 ppm; chloride, 1.0 to 24 ppm; and fluoride, 0.0 to 2.8 ppm. Water from the Tuscaloosa group is softer than from either the Fort Payne chert or Tuscumbia limestone. Water from the Gasper formation and the Ste. Genevieve limestone is generally highly mineralized and unsuitable for domestic use (W-20 and O-23).

SUMMARY AND CONCLUSIONS

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Colbert County, in northwestern Alabama, comprises an area of 618 square miles. The area is underlain by beds of limestone, sandstone, shale, and chert of Mississippian age. Moderate to large supplies of ground water are obtainable from cavities and other openings in the limestones. Most of these openings occur at depths of 100 feet or less. Smaller amounts of ground water can be obtained from sand and gravel of the Tuscaloosa group and from the weathered material overlying bedrock.

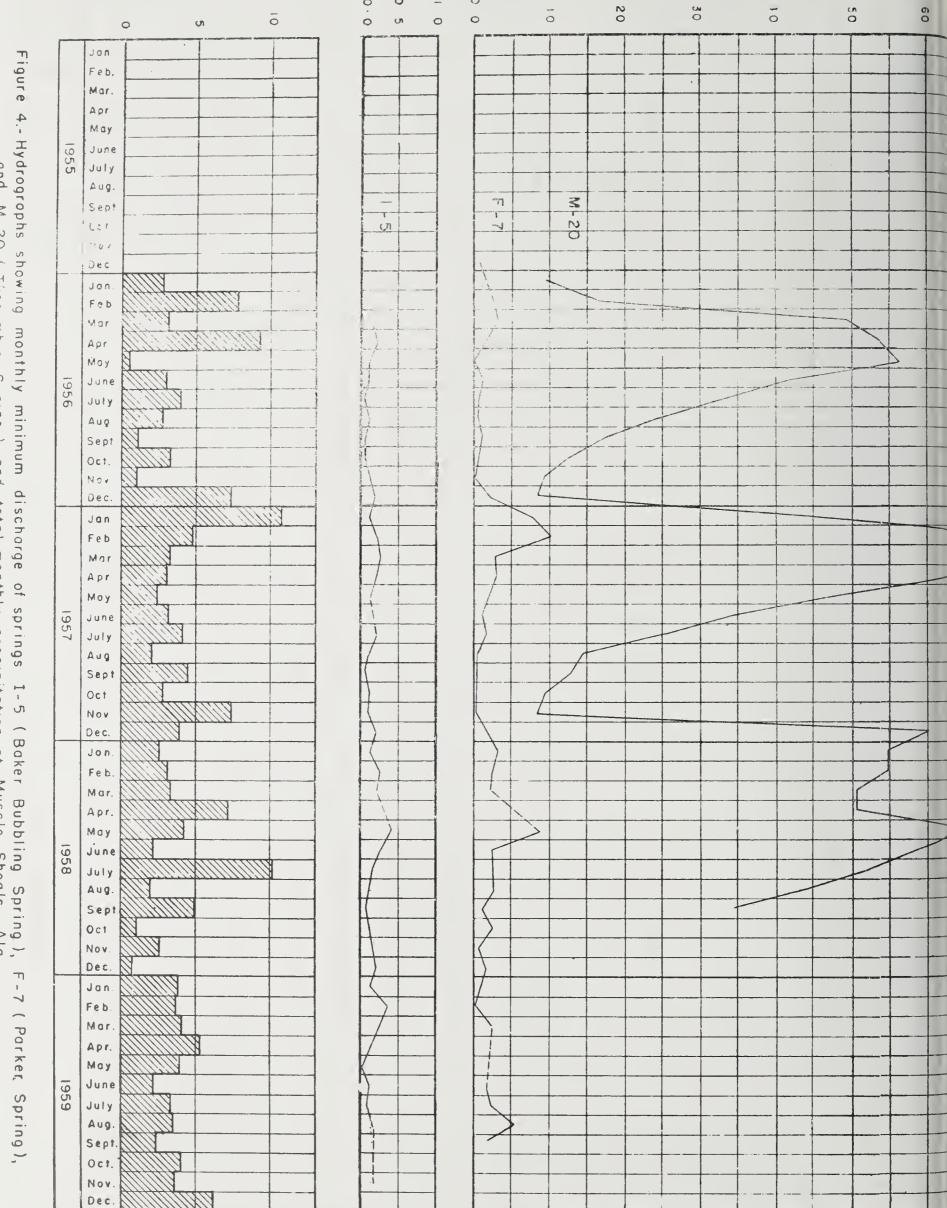
The ground water ranges in quality from soft to hard, and is moderately low in dissolved solids, sulfate, and chloride.



and Figure 3.- Hydrographs showing monthly lowest water levels in wells M-21 and H-67 total monthly precipitation at Muscle Shoals, Ala.

Precipitation, in inches

Water level, in feet below land surface



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Figure 4.- Hydrogrophs showing monthly minimum discharge of springs 1-5 (Baker Bubbling Spring), and M-20 (Túscumbia Spring), and total monthly precipitation at Muscle Shoals, Ala.

REFERENCES

- Harris, Hobart B., 1957, Springs in Colbert and Lauderdale Counties, Alabama: Alabama Geol. Survey Inf. Ser. 10, 17 p.
- Johnston, W. D., Jr., 1933, Ground water in the Paleozoic rocks of northern Alabama: Alabama Geol. Survey Spec. Rept. 16, 414 p.

Table 1. -- Records of wells and springs in Colbert County, Ala.

Well or spring no.: Numbers correspond to those in plate 1; asterisk indicates chemical analysis given in table 2. Type of well: B, bored; D, drulled; Dr, driven; Du, dug; J, jetted; S, spring. Depth of well and water level: Depths shown in feet reported; those in

feet and tenths are measured.

Altitude: Altitudes determined by aneroid barometer.
Metinod of lift: C, cylinder; F, flows; J, jet; M, manual; P, pitcher; S, submergible; T, turbine.

Use: D, domestic; Ind, industrial; Irr, irrigation; N, none;
P, public supply; S, stock.
Water-bearing formation: Mfp, Fort Payne chert; Mt, Tuscumbia limestone;
Ms, Ste. Genevieve limestone; Mbe, Bethel sandstone; Mg, Gasper formation;
Mc, Cypress sandstone; Mh, Hartselfe sandstone; Mb, Bangor limestone;
Kt, Tuscaloosa group undifferentiated; S, soil.

a ;

	#P1 /	Known as "Sprout Spring." Measured flow, 10 gpm on 8-5-29 (Johnston, 1933).	Supplies 1 family:	Known as "Worsham Spring." Estimated flow,	Supplies 2 families.	ole:	,	Supplies 1 family.	Well not cased. Supplies 1 family.	. 7 L	Known as "Hayes Spring." Astimated flow, 2 gpm on 9-28-55.	Well not cased. Supplies 2 families.	Not used in Winter. Supplies 2 families in	Known as "Royal Spring." Measured flow, 5 gpm, on 8-5-29 (Jounston, 1933).	Known as "George Spring." Estimated flow, 2 gpm on 9-2-55.	
inations	Hardness as CaCO ₃	20	:	:	•	338	:	:	•	:	46	:	36	:	18	
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	Owner	Arthur Lumber Co.	J. Brown	Jessie L. Worsham	Anna Dorsey	Fred Wellington	•	•	James Laxon	J. E. Tanner	Davis and Herald.	A. Bradfield		Buck Hannon	John T. George	
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		Supplies 2 families. Casing: 6-in, to 44 ft.; none below.
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Known as "Vilker Chapel Spring." Estimated flow, 65 gr 1 on 9-2:55.	Supply inadequate.	Supplies 1 family.	Well used only during summer months.		Supplies i family.		Casing: 6-in. to 20 ft.; none below. Water at 105 ft. below land surface.	Supplies I family.	Well used only during summer months.	Supplies 1 family. Casing: 6-in. to 35 ft.; none below.	Well used only during dry weather.	Supplies motel.	Well not cased.	Casıng: 30-in. to 37 ft.	Known as "Morris Hill Spring." Estimated flow, 2 gpn1 on 11-14-55.	Supplies I family. Casing: 6-in. to 21 ft. Sulfurous.	Supplies , family.	Do.	Well used only during summer months.	Supplies if people.	Known as "Lane Spring." Measured flow. 8 gpm on 9-27-55.	Known as "Bethune Hollow Spring." Estimated flow, 5 gpm on 11-8-55.	Supplies 3 families.	Supplies a person.	Supplies 2 families. Casing: 6-in. to 44 ft.; none below.	
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:	17.8	10.0	11.0	18.9	29.7	28.5	29.0	37.0	45.8	31.0	55.0	93.3	24.2	32.0	•	21.5	18.5	53.2	90	74.9	•	:	6.09	86, 6	70	
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:	36	24	9	9	36	35	ø	•	9	30	36	က	33	36	:	9	9	(0	అ	9	:	:	2	5	-2	
:	23.8	13.5	37.0	56.5	35.5	32.5	119	33.6	78.0	35.0	59.4	99.3	25.0	37.3	•	181	52.0	100.0	190	256. i	:	:	39.5	123.7	2 :8	
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	•						Bud Copeland	•	•				:		:	Earl Crowden				R. C. Capley					Earl Crowden .	
Cooperage Co	E. W. Harlan	M. Blackwell	L. C. Wilson	J. A. Dabbs	Frank McVay	G. C. Hurd	R. A. Atchley	Melvin Harris	Buzzard Roost Camp	J. N. Hayes	Alfred Ferris	Tracy Gargie	R. L. Woodfin	B. C. Ballew	Edward Crowell	Jerry Clark	Guy Ball	W. L. Ham	C. R. Posey	Mrs. Monk		Cooperage Co	Fletcher Bailey	Hagh Shelton	Gorden Worsham	
C-10	C-ii	Ω- i	D- 2	D- 3	D- 4	D- 5	D- 6	D- 7	D- 8	D- 9	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	- E	E-2	₩ - 3	E - 4	ह्य - -	9 - ब	E- 7	

		Remarks		Supplies 2 families. Casing: 6-in. to 40 ft.; none below.	Electric log in files of U.S. Geol. Survey.	Supplies 1 family.	Do,	Do,	Supplies i family and 20 head of stock.	Known as "Bailey Pride well." (Johnston, 1933.)	Supply inadequate.	Supplies 2 families.	Do.	Supplies I family. Water has H ₂ S odor.	Supply inadequate.	Supplies 2 families.	Do.	Casing: 6-in. to 40 ft.; none below. Solution cavities reported at 7 and 40 ft. below land surface.	Supplies I family.	Supplies 3 families.	Supplies I family. Casing: 6-in. to 14 ft.; none below.	Water has H ₂ S odor.	
	determinations	Hardness as CaCO3 (ppm)	;	194	361	278	300	130	404	232	250	86	122	576		202	300	:	•	262	420	•	
		Chloride (Cl)		19	30	2	0	0	rΩ	9	18	9	9	<i>©</i>	0	35	85	•	:	2	26	:	
	Field	Temperature (°F)		61	09	61	61	61	10	31.5	30.5	51	60.5	61.5	0 0	7 70	62	•	:	61	•	:	
		Telew fo esU	Ω	Q	Д	Q	Д	Д	O S	Д	Q	Q	Q	Q	Q	Ω	Ω	Z	Q	Q	Q.	z	
		Method of lift	Z	M	∑ .	×	M	M	×	Z	Z	Z	Z	Z	Z	٦	٦	Z	Z	M	٦	Z	
	r level	Date of meas- urement	1-24-56	1-20-56	1-25-56	1-20-56	1-24-56	1-20-56	· · · do · ·	1-24-56	do	1-30-56	1-24-56	1-30-56	10-30-56	10-31-58	10-30-56	1-30-56	do	1-16-56	156	1-30-56	
	Water	Above (+) or below land surface(feet)	82.0	54.4	108.6	73.3	53, 9	64.0	84.5	50.5	146.8	70.3	100.8	105.8	16.1	•	63.7	49.6	8.8	64.0	20	39.2	
		Altitude of lar teat) sourface	535	515	541	525	516	523	532	517	563	542	576	643	470	487	543	550	532	538	553	543	
	, d	Water-bearing formation	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mi	ω	Mt	Mt	Mt	Mt	Mi	Mċ	Mt	
	/e]]	V fo refer of v (sechon)	9	9	9	9	9	9	9	9	ಬ	22	9	9	36	9	9	9	9	9	9	9	
* ***********************************		Depth of well (feet)	235	73.9	224.8	99. 1	87.4	84.7	228.0	69.6	134.4	128.0	135.9	148.5	34.4	190	165	122.7	92.0	122.9	116	•	
: 1		Type	Q	Ą	Q	Д	Q	Q	Q	Д	Д	A	Q	Q	Da	Д	Q	Д	Q	Q	Д	Д	
		Driller	O. McGuire		J. Byron Cotton.		R. C. Capley		Rhoden Drilling Co.				Fred Thompson .	Eston Hargett			Fred Thompson .	Rhoden Drulling Co.			R. C. Capley		
		Owner	Oscar Thompson	Villiam Smith	Joan ason	Raymond McCarter.	L. R. Turrille	L D Bennell	٠ do	Mrs. Monk	Dora Redwine	· · · · · · · · op · · · · ·	Marcy Turberville	W. M. Hathcock	Dr. C. C. Gesser	Ralph Guthrie	Mrs. Davenport	O. B. Thompson	C. E. Thompson	E. J. Tapp	.V. C. Nelson	Herbert Harris	
°C	u (j)	Well or sprin	B - B	73 四	*E-13	三 	<u>ы</u>	E-13	E-14	E-15	E-16	E-17	E-18	E-19	E-20	E-21	E-22	E-23	E-24	E-25	E-26	E-27	

	-			er's			ft.; none					_	-			Electric log		*					<u>.</u>		Врт		17	
	Supplies 1 family.	Water is reported to have a sulfur taste.	Supplies i family.	Casing: 6-in. to 12 ft.; none below. Driller's log in files of U.S. Geol. Survey.		Supplies 2 families.	Supplies i family. Casing: C-in. to 72 ft.; below.	Supplies 1 to 6 families.	Supplies 2 families.	Supply inadequate.	Supplies 1 family.	Supply inadequate.	Supplies 3 families.	Supplies 1 family.	Water is reported to have a sulfur taste.	Casing: 3-in. to 32 ft.; none below. Electrin files of U.S. Geol. Survey.	Vater is reported to have a sulfur taste.	. Do.	Dry on 11-28-56.	Casing: 5-in. to 30 ft.; none below.	Supplies 2 families.	Supplies , family.	Water level: 29.48 ft. on 11-28-56.		Reported drawdown 35 ft. after pumping 200 gpm for 30 hours.	Casime: 5-in. to 12 ft.; none below.		
	Si .	182	246	223	164	222	:			•	:	:	32	:	:	134	22	230	:	:	313	7:6	228		700	860	:	
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	70	22	52	69	62	03	:	:	:	•	•	•	32	:	:	32	32	:	•	:	23	•	:	:	:		:	
4	<u> </u>	Q	Д	Д	Z	Q	Д	Q	Д	Q	Д	Д	Д	Д	Q	Д	A	D	z	z	Q	Q	O S	z	Ь	Z	Z	
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	1-5.1-55	1-15-50	do	1-12-58	do	do	1-30-53	10-30-56	do	do	10-23-55	do	10-29-56	10-31-58	1956	1-23-53	₹0-30-23	1-27-55	do	1- 9-56	1- 5-58		do	1-10-58	1-5-55	do	(-1)-2	
0	28.0	25.3	21.7	36.5	15.9	21.5	96.1	55.4	8.5	80.0	47.7	35.3	48.0	82.4	22	35.0	•	41.8	63.3	28.9	42.8	39.1	39.0	18.7	40	8.4	۴۰. ئ	
7	241	529	523	592	574	5.12	327	564	299	552	480	443	475	504	479	540	525	534	523	516	510	514	405	522	530	503	543	
7.74	114	MI	M	M3	M	Mt	Mt	Mt	Mibe	Mt	Mt	Mt	M	Mt	Mt	Mt	Mt	F	Mt	Mt	Mt	Mt	Mit	M	P. C.	Ms	Mbc	
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0 110	2.15	105.0	44.1	151.3	54.8	100.1	179.3	59.0	18.2	96.4	65.4	38.8	87.0	150.0	137	148.6	500	118.1	55.7	54.0	54.5	59.5	53.2	29.3	200	72.7	34.4	
٤	٦	Q	А	О	D	Q	Q	Q	Da	Q	Д	О	D	Q	Q	Д	О	D	А	Q	Д	О	О	Q	Q	Q	О	
C	n. C. Capacy	:		O. McGuire	Eston Hargett	R. C. Capley	Chas. Richey	:		:	:	:	O. McGuire	Mathew Roden	Thompson	Rhoden Drilling Co.		Clyde Morgan						Eston Hargett	Peerson Drilling Co.	R. C. Capley		
	A series Contains	Mrs. Aleert Dooes	Mrs. Maggie Bur- goss.	Robert Anderson	V. A. Malone	A. D. Hayes	T. H. Harrison	C. S. Tigner	H. 'V. 'Vallace	H. H. Franks	.V. O. Saunders	Mrs. F. E. Ham.	M. A. Voods	Claude Lamb	Mary Pride	.V. J. Duncan	R. H. Davenport	Roy Rutland	Elna Harris	J. C. Vaughn	Mrs. R. Cochran	S. H. Nagle	Morris Johnson	Albert Duncan	Town of Cherokee.	ор	Martha Malone	
		ें - च च	E-30	E-31	E-32	E-33	五 -3 -4	E-35	5 - 1	E-37	E-38	ुंध-3	E-40	E-41	E-42	E-43	E-44	四	<u> </u>	E-47	国 (4)	€v	<u>대</u>	国	五 50- 10-	E-53	E-54	

Well or spring no.

E-55

E-26

E-57

E-59

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E-62

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E-63

E-65

E-64

E-66

E-67

E-58

Water

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drawdown 10 ft, after pumping 20 gpm for 24 hours. Electric and sample logs in files of U.

Geol. Survey.

Casing: 6-in. to 32 ft.; none below. Reported

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Hawley Dodson.

Herbert Harris....

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Supplies 1 family.

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Supplies 1 family. Slightly sulfurous.	Casing: 6-in. to 55 ft.; none below. Driller reported water at a depth of 220 ft.	Known as "Parker Spring." Measured flow, 242 gpm on 11-15-56. Record of flow on file of U.S. Geol. Survey.	Supplies 1 family.	Supplies 2 families. Casing: 6-in. to 70 ft.; none below.	Supplies 2 familie and 20 head of stock. Casivg: 6-m. to 30 ft.; none below.	Casing: 5-in. to 124 ft.; none below. Solution cavities at 55 to 124 ft. below land surface.	Supply madequate for 2 families.	Supplies 1 family.	Dry in summer.	Supplies 11 people.	Casing: 6-in. to 60 ft.; none below. Drilled in 1937.	Reported yield 48 gpm. Drilled in 1927.	Drilled in 1932.	Casing: 8-in. to 40 ft.; none below. Reported yield 13 gpm. Driller reported water at 9° ind 150 ft. below land surface.	Casing: 3-in. to 59 ft.; none below. Driller reported solution cavities at 251 and 252 ft. below land surface.	Drilled in 1954.	Casing: 6-in. to 60 ft.; none below. Reported yield 60 gpm.	Casing: 6-in, to 60 ft.; none below. Solution cavities at 127 and 135 ft. below land surface.	Casing: 6-in, to 150 ft.; none below. Drilled in 1545.	Casın;: 6-ın. to 45 ft.; none below. Well dry on 12-3-55.
136	142	154	170	248	284	268	272	300	•	236	:	130	:	210	322	178	23ê		174	:
2	13	12	, :5	د.	2	ဖာ	47	C	•	0		14	:	35	24	21	21		17	:
go mel un		,5 .4	Cr	•	:	:	30	33.5	:	32.5	:	32	:	62	•	:	:	•	:	:
ΩΩ	А	Q	D	Ω	ΩΩ	ΩS	D	Q	Z	Q	Irr	Irr	D	Ind	Ω	puI	Ind	D	þ u J	Z
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1-16-50	1-26-55	11-16-58	12-8-55	do	1-13-53	1-20-56	1-12-58	8-255	do	8-25-55	1-22-57	157	•	1255	1-21-57	157	do	do	:	: : :
(1).2	0.5	:	84.0	100.8	60.3	118.4	81.3	48. 3	77.6	98.7	:	75	•	100	100.0	35	50	35	•	:
513	490	420	528	543	552	πο 50	542	405	460	523	200	400	505	520	515	495	46.3	434	435	485
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92.5	245		146.9	142.7	183.	338. 5	30° 22	53.8	81.7	156.1	120	155	06	245	252	220	159	155	200	208
Q	Q	W	Ω	Q	Q	Ω	Q	Q	Q	Д	А	Q	Q	Q	Д	D	D	Q	А	А
	Pad Copeland		Curtis Spangler.		R. C. Capley	J. Byron Cotton.	R. C. Capley				F. L. Thompson		F. L. Thompson	Bud Copeland	J. Byron Cotton.	F. L. Thompson	op		F. L. Thompson	op
ist marks.	Eddict Stockwill		Charles Keeton	Mrs. James Keeton.	J. E. Patrick	Farl Keeton	Mrs. Monk	Earl George	H. M. Gilbert	Jace Coger	Theron Blackwell	Frank Prive	Mosley	Muscle Shoals Rubber Co.	McKinney	Valco Manufacturing Co.	Martin Stove Co	Whitefield Lumber Co.	Sersit Milk Co	Southern Cottor. All
· ·	1 124	1 ·	F- 8	Ç.,	F-10	F-11	F-12	F-13	F-14	F1 C2	G. 1	~ .5	G- 3	Q -	re re	ව	G- 7	g	6 - 5	G-10

	Remarks	Owner's well 2. Reported yield 125 gpm.	Owner's well 1. Reported yield 125 gpm.	Owner's well 3. Reported yield 125 gpm.	Owner's well 4. Reported yield 13 gpm.	Casing: 6-in. to 40 ft.; none below. Drilled in 1953.	Casing: 6-in. to 65 ft.; none below. Drilled in 1953-54. Sample log in files of U.S. Geol. Survey.	Drilled in 1930.	Known as "Barry Well." (Johnston, 1933.)	Supplies 3 families and 250 head of stock.	Used only during summer months.	Supplies 5 people. Drilled in 1955.	Casing: 6-in. to 30 ft.; none below. Drilled in 1956.	Casing: 6-in, to 47 ft.; none below. Drilled in 1956.	Casing: 6-in. to 61 ft.; none below. Drilled in 1956.	Casing: 6-in. to 40 ft.; none below. Drilled in 1956.	Casing: 6-in. to 60 ft.; none below. Drilled in 1949.	Supplies 1 family. Drilled in 1953.	Supplies 1 family.	Supplies 5 families and 200 to 300 head of stock.	
ations	Hardness as CaCO ₃ (ppm)	•	152	•	•	•	•	•	122	96	•	80	•	•	•		94	. 56	44	28	
determinations	Chloride (Cl)	•	21	•	•	•	•	:	9	6	•	. 23	:	•	•	1) •	81	9	26	စ	
Field	Temperature (°F)	•	64	•	:	•	:	•	61.2	•	:	•	•	:	:	:	•	•	•	•	
	Use of water	Ind	puI	Ind	Ind	z	z	Irr	Ω	Ωv	a A	Д	z	Z	z	×	Q	Д	Q	Ωø	
	Method of lift	T	L	H	H	×	•	ပ	٦	٦	ئر	٠ حا	:	•	•		٦	در	فر	L.	
level	Date of meas- urement	755	do	op	do	1-18-57	10-22-53	•	10-27-55	356	•	356	3-28-56	4- 4-56	3-21-56	op	•	356	3-15-56	356	
Water	Above (+) or below land surface(feet)	30	30	40	20	57.4	81.0	•	47	49		72	12.3	37.5	38.4	15.0		44	3.8	7.0	
	Altitude of land (feet)	480	480	480	480	476	469	515	532	561	576	607	524	563	545	521	561	551	541	583	
3	Water-bearing formation	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	 02	Mfp	
llə	Diameter of w (inches)	ဆမ	9	9	10	စ	9	9	36	9	9	9	9	9	9	Ģ	9	9	36	9	
	Depth of well	200	215	200	200	400	469	06	45	73	•	157	63.0	86.5	80.1	£.3	142	117	38.8	88	
	_LAbe	Ω	Д	Ω	Ω	А	Q	Ω	ದ್ದ	А	А	А	Д	Ω	Д	А	A	Д	ន	Ω	
	Driller	F. L. Thompson	· · · · · · · · · · · · · · · · · · ·	Bud Copeland	op	J. Byron Cotton.	· · · · · · · · · · · · · · · · · · ·	F. L. Thompson		J. Byron Cotton.		J. Byron Cotton.	Charles Richey	· · · · op · · · ·	P. J. Chipolet	ф	J. Byron Cotton.	op	•	Tennessee Valley Authority.	
	Owner	Lucky Minnow Farm	· · · · · · op · · · ·	op	op	Clifford Barners	Southern Sash of Sheffield.	Maddox	N. A. Underwood	Cunningham	Emmitt P. King	Irvin Osborn	Paul Minor	Hartwell Gargis	Hobart Grissom	G. G. Britton	J. O. Askin	Lonnie Ledlow	F. H. Holt	Cunningham	
						G-15	G-16		G-18			•				,		н- 9		,-	

ation .			1, 481					-	nçine						,					; g	none.	Observ - strap-drosse s - + s saless		21	
Casing: 6-in. to 28 ft.; none below. Observation well.	Supplies 75 students.		Known as "TVA Spring." Measured flow, 1, gpm on 11-29-55.	Sample log in files of U.S. Geol. Survey,		Supplies 3 people,		Supplies 1 family. Drilled in 1943.	Supplies 2 families. Casing: 6-in. to 83 ft.; none below.	Drilled in 1953.	Supplies 2 families and store.	Casing: 6-in. to 60 ft.; none below.	Supplies 2 families. Drilled in 1925.		Supplies 2 families.		Supplies 1 family and 90 head of stock.		Supplies 2 families. Drilled in 1954.	Supplies 1 family and 250 to 300 head of stock. Pumped continuously during summer months	Supplies 2 families Casing: 6-in. to 60 ft.; none below. Water at 79 ft. below land surface.	Supplies 8 people and 127 head of stock.	Supplies 1 family. Drilled in 1955.	Casing: 6-in. to 53 ft.; none below. Solution cavities reported at 84.5 and 86 ft. below land surface. Water has H ₂ S odor.	
	118	:	89	170		36	806	108	100	85	•	72	136		:	:	86		104	148	194	52	126	180	
	. 23	:	22	2		0	83		2	2	•	2	4	•	:	:	4	•	0	9	2	13	2	9	
:	· :	:	29	:	:	:	•	62	•	:	•	:	:	•	:	:	•	:	:	•		*	•	:	
Q	Ъ	Q	z	z	Ъ	Q	<u>A</u>	Q	Ω	P4	Ω	А	Ω	z	Q	Ω	Q v ₂	z	Q	ΩS	Q	QS	Q	Q	
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3- 1-57	2-24-56	2-15-56	•	2-15-56	op	1055	,	2-15-56	1055	10-31-55	256	do	•	2-15-56	•	•	2-24-56	3-12-56	356	•	356	3-21-56	3-28-56	3~ -55	
35. 5	53.2	37.1	:	44.2	67.1	95	:	52. 2	35	10.1	20	34	:	49.4	:	:	85.2	11.6	37	:	09	17.9	83.6	21	
550	565	540	•	545	525	525	565	260	541	516	562	•	580	568	290	267	605	580	564	568	572	541	616	537	
Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Ω	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	
9	9	9	:	9	9	9	9	9	9	9	9	9	9	9	9	9	9	36	9	9	9	9	9	9	
135.0	162.1	72.2	:	330	283.0	164	178	170.1	120	62	115	82	96	68.9	•		245	•	66	184	100	124, 1	157.0	98	
Ω	Q	Q,	Ø	Q	Q	Ω	А	Д	Ω	А	D	Ω	Ω	Ω	Q	Ω	Q	Du	а	Д	A	Д	Q	Ω .	
J. Byron Cotton.	op	Bud Copeland		J. Byron Cotton .	· · · · · op · · · ·	op	do	op	op	op	J. M. Ferrell	J. Byron Cotton .	J. M. Ferrell			•	J. Byron Cotton.		J. Byron Cotton .	· · · · op · · · ·	Curtis Spangler .		J. Byron Cotton.	do	
Noah McGee	Fowler School	Jack Reed	U.S. Government	Diamond Alkali Co.	· · · · · op · · · ·	Joseph McCay	Town of Muscle Shoals.	Samual Griffen	Edward L. Brewer.	Town of Muscle Shoals.	J. R. Clemons	George Haney	Mrs. Emma Quillon.		Louis Martin	ор	T. L. Montgomery.	Louis Martin	William Bady	R. T. Cunningham .	L. H. Morgan	Dr. H. A. Griffith .	J. D. Streit	J. R. Romans	
H-12	H-13	H-14	*H-15	H-16	H-17	H-18	*H-19	H-20	H-21	H-22	H-23	H-24	H-25	H-26	H-27	H-28	H-29	H-30	H-31	H-32	H-33	H-34	H-35	н-36	
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	Remarks	Supplies 2 families. Casing: 6-m. to 46 ft.; none below.	Supplies 1 family. Supplies 200 head of stock in 1954.	Supplies 1 family. Water is reported to have H ₂ S odor and objectionable taste. Drilled in 1952.	Dry in summer.	Supplies 1 family.	Do.	Supplies 6 families.	Supplies 1 family and 20 head of stock. Casing: 6-in. to 40 ft.; none below. Water is reported to have a metallic taste.	Supplies 2 families.	Supplies 1 family.	Supplies 3 families.	Dry in summer.	Do.	Casing: 6-in. to 50 ft.; none below. Water has	Supplies 2 families.	drawdown 10.5 ft.; none below. Measured drawdown 10.5 ft. after pumping 200 gpm fow 36 hours. Sample log in files of U.S. Geol. Survey.	Casing: 10-in, to 65 ft.; none below. Reported to have pumped at 500 gpm. Sample log in files of U.S. Geol. Survey.
determinations	Hardness as CaCO3 (ppm)	162	204	•	54	96	86	.02	94	152	72	208	44	26	120	32	:	:
determ	Chloride (Cl)	6	19	•	9	33	6	6	90	.13	23	2	0	78	0	61	•	•
Field	Temperature	•	•	•	22	,	•	•	•	•	63	•	•	57	•	29	62	89
	Use of water	Q .	ΩΩ	Q	Q	D	D	Q	D S	D	D	D	D	Q	Q	A	Ind	lnd
	Method of lift	C	څا	ص	×	ش	J	J	O	ص	×	M	×	Ž.	فم	×	H	Ð
lev	Date of meas- urement	•	3-14-56	do	do	•	•	•	3 56	3-15-56	op · ·	op.	· · · op	op.	.356	3-15-56	7-14-12	
Water	no (+) oved A below land surfacet)	•	57.0	54	4.7	•	•	•	545	29.7	45.2	43.6	15.2	. 2	· 4 5	21.0	37.7	:
	Altitude of lan (1991) sourtace	536	549	540	559	267	562	575	566	559	57.1	571	561	541	. 099	550	541	542
Ś	Water-bearing formation	Mfp	Mt	Mt	Ø	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mt	ß	က	Mt	ω, ,	Mfp	Mfp
[[ə	Diameter of w (inches)	9	ø	9	36	9	9	ဆ	9	9	9	9	36	36	Ó	φ	ဖ	10
	Depth of well	146	92.7	130	26.0	114	110	135	101	86.9	134.7	105.6	37.5	42.5	114	41.8	250	250
	Type	Q	Д	А	ğ	Д	D	Д	Ð.	Д	А	А	ğ	ğ	Д	Ą	Д	Д
	Driller	J. Byron Cotton.		J. Byron Cotton .	•	•	•	J. Byron Cotton.	M. H. Palmer	•	Fred Thompson .	J. Byron Cotton.	•		Curtis Spangler .		H. W. Peerson	
	Owner	H. R. Osborn	Joe King	W. J. Baker	D. A. Palmer	J. E. Palmer	D. A. Palmer	Robert Chaney	J. E. Palmer	Virgle Tronsdale	Edward Comely	Huston Ledlow	Charles McDuffy	Lewis Cottrell.,	Jim Felton	Price Counts	Reynolds Alloys Co.	· · · · · · · · · · · · · · · · · · ·
'50 S	Mejl or abrus	H-37	Н-38	н-39	H-40	H-41	н-42	H-43	H 44	Н-45	н-46	н-47	н-48	H-49	н-50	H-51	H-52	H-53

23	water at 119 it. Derow talia surface.															ı
	Supplies 8 people. Casing: 6-in. to 92 ft.; none below Water at 175 ft below land surface.	52	730	:	Q	£-4	3-23-5	65, 0	.23	In It	ς;	300	Q	J. Byron Cotton.	Percy Alexander	Н-75
•	Supplies 11 people.	333	2	e2	Q	M	 100 100	5:.0	60 7.= 10	N.t	10	25.4	Q	•	Ernest Uhlman	H-74
1.	Drilled in 1947.	:	:	:	z	M	3-12-50	7. 27.	574	Iv. C	c۵	155.3	Ω	op	C. Davis	H-73
	Supplies i2 families. Drilled in 1946.	152	(C)	•	Q	<u></u>	5- 3-53	45.0	5,4	Lit	72	180	Q	J. Byron Cotton.	Timothy Vinson	Н-72
	Supplies a family. Drilled in 1954.	230	33	32	Q	Z	3-15-58	27.0	230	Mit	c	87.5	Ω	Earl Crowden	B. W. Aday	H-71
	Supplies I family.	123	. 13	22	Ω.	Z	5- 3-53	42.7	532	W.t	(2)	2.02	Ω	•	C. P. Counts	H-70
	Supplies 8 people. Drilled in 1955.	134	*3	30	Q		2-24-53	© (')	523	NI ¢	්	•	Ω	op	Robert Newsome	69-Н
	Water becomes turbid when pumped at 200 gpin.	•	:	•	Įnd	٦	253	18	579	Lit	က	153	Q	op	Alabama-Tennessee Natural Gas Co.	н-68
	Observation well. Sample log in files of U.S. Geol. Survey.	:	:	:	z	•		:	528	Mt	ŷ.	405	Q	do	Diamond Alkali Co.	Н-67
	Supplies 5 people.	09	:0	61	Д	×	. op .	14.4	530	Mt	10	115.7	Ω	Bud Copeland	John Harris	99-H
	Electric log in files of U.S. Geol. Survey.	100	భ	53	Q	×	do	11.7	52.;	Mt	د ت	158.8	Ω	J. Byron Cotton.	Dave Henry	Н-65
	Supplies 1 family.	132	4	ᄗ	Д	M	2-24-56	10.8	525	Mit	9	74.5	Ω	Bud Copeland	Eddie Wilson	H-64
	Casing: 6-in. to 34 ft.; none below.	:	•	:	Z	:	3-23-58	12.8	542	Mfp	5	34.4	Q	op	op	H-63
	Casing: 6-in. to 34 ft.; none below. Supplies 5 families.	34	33	:	a	Ö	356	22	543	Mfp	භා	225	Q	Fred Thompson .	J. W. Stutts	Н-62
	Supplies 3 families.	46	6	31	Д	M	3-23-56	7.1	532	Mt	Ø	43,4	Ω.	op	Dave Newsome	H-61
	Electric log in files of U.S. Gool. Survey.	•	:	:	Q	دم	1- 3-57	18.0	520	Mit	φ	192.0	Q	J. Byron Cotton.	Samuel Griffin	H-60
	Casing: 12-in. to 250 ft.; none below. Reported drawdown 66 ft. after pumping 425 gpm for 21 hours. Sample log in files of U.S. Geol. Survey.	152	7	ထူ	Ind	H	7-7-54	70.71	55.	Mfy	12	250	Ω	op	dp	H-59
	Casing: 10-in, to u. ft.; none below. Pumped at 500 gpm. Sample log in files of U.S. Geel. Survey.	•	•	:	Ind	Ę	•	•	543	Mfp	10	250	Ω		op	H-58
	Casing: 10-in, to 66 ft.; none below Reported to have been pumped at 150 gpm. Supply made, for industrial use. Sample log in files of U.S. Geol. Survey.	:		:	Z	E-	:	· ·	548	Mfp	10	250	Q	op	· · · · · · · · · · · · · · · · · · ·	т. Го
	Casing: 10-in. to 93 ft.; none below. Reported to be pumped at 500 gpm. Sample log in files of U.S. Geol Survey.	***	· · · · · · · · · · · · · · · · · · ·	:	pu r	E-1	•	•	542	Mifp	10	250	Q	do	do	H-0.
	Casing: 10-in, to 79 ft.; none below Reported to be pumped at 556 gpm. Sample log in files of U.S. Geol. Survey.	:	•	54	Ind	E	•	:	542	Mfp	61	250	Q	· · · · · · · · · · · · · · · · · · ·	op	H-55-
	Casing: 10-in. to 48 ft.; none below. Reported to be puraped at 300 gpm. Sample log in files of U.S. Geol. Survey.	:	•	:	Ind	Ent	:	:	541	Mfp	6	250.0	Q	h. W. Peerson.	Reynolds Alloys Co.	re-H
			1	0		-	-	-	-	-			-			

	27 gpm		; none	9 ft.	; none	; none				d flow,	.; none		Casing: 945.	none	t.; none	in. to			Casing: 1943.				25 9uou ::
	Measured flow,	5.	to 40 ft.; none	Chattanooga shale at 209 ce. Drilled in 1955.	to 33 ft.	to 35 ft.; none	ů.			Estimated flow,	. to 85 ft.; none	ĵ.	fish pond. Cas Drilled in 1945.	Casing: 6-m. to 27 ft.; none Drilled in 1948.	6-in. to 27 ft.	Casing: 6-in. n 1953.	of stock.						families. Casing: 6-in. to 60 ft.; none Drilled in 1945.
		Drilled in 1955	g: 6-in.	ttanooga s Drilled in	g: 6-in.	g: 6-m.	Drilled in 1955	m.		£	ng: 6-in.	Drulled in 1955	.0	g: 6-m. lled in 1	ng:	- (red)	lead of s						ng: 6-in
	"Mint Spring." 9-55.		7. Casing: d in 1945.	e. Chatt face. D	people. Casing: Drilled in 1949.	family. Casing: Drilled in 1954.		Reported discharge 20 gpm	es.	Known as "Cunningham Spring. 3 gpm on 9-16-55.	4 people. Casing: Drilled in 1955.		part .	(3)	families. Casing: Drilled in 1955.	pplies 2 families and store. 98 ft.; none below. Drilled	7 people and 14 head		2 families and 15 heato 63 ft.; none below.		°S.		es. Cas
		Supplies 3 people.	Supplies 1 family. below. Drilled	pplies 4 people. Chibelow land surface.	2	-	3 people.	l dıschar	Supplies 2 families.	nown as "Cunningh 3 gpm on 9-16-55,		Supplies 1 family.	2 families, to 41 ft.; no	1 family. C Sulfurous.	2	2 famili none bei	7 people	1 famuly	2 famili :0 63 ft. ;	1 family.	2 families.	1 family	3
	Known as on 10-1	Supplies	Supplies below.	Supplies below	Supplies below.	Supplies below.	Supplies 3	Reporte	Supplies	Known a 3 gpm	Supplies below.	Supplies	Supplies 6-in.	Supplies below.	Supplies below.	Supplies 2 families 98 ft.; none belov	Supplies	Supplies 1 famuly.	Supplies 6-in.	Supplies	Supplies	Supplies	Supplies below.
	32	:	80	30	26	102	:	:	18	26	114	80	20	œ	12	09	40	130	36	176	148	20	38
	72	:	က	57	6	67	:	:	35	0	7	2	7	19	6	23	9	2	40	9	2	42	20
-	62	:	:		:	:	:	09	:	99	:	:	:	:	:	:	:	:	:	*	:	•	
×	w	. D	D	D	D	Q	Q	Д	Q	S	Д	Q	Q	Q	Q	Q	ΩS	Q	ΩS	Q	Q	Q	S D
-	<u> </u>	:	٦	٦	L .	r ·	r	<u>ن</u>	×	<u>F4</u>	F3		F	۵,	r	۵,	ي	٦	٦	ſ	ſ	M	F
		3-23-56	356	3-27-56	ob	do	op	829	7- 5-56	:	3-21-56	3-23-56	1255	1955	3-27-56	1053	3-22-56	3-28-56	3-27-56	do	op	7- 5-56	7- 3-56
	:	80	89	121.5	22.3	30.2	44.4	09	33.2	:	53.3	53.0	33	27	13.1	20	24.6	30.2	21.0	40.5	48.5	23.0	42.5
	541	558	909	611	598	609	618	629	629	575	601	616	558	554	549	617	588	585	617	617	621	633	637
	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Ω	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Ø	Mfp
	:	9	9	9	9	9	9	9	9	:	9	9	9	9	9	9	9	9	9	9	9	9	9
	:	160	87	213	59.8	69.8	99.9	100	49.7	:	100.5	103	53	130	172	86	36.1	99. 2	81.7	99.9	150.4	36.9	92.5
	w	Q	Q	Q	Q	Q	Q	Q	Dn	w	Q	Ω	Q	Q	Q	Q	Q	Q	Q	Ω	Ω	Ã	Q
		W. Copeland	F. L. Thompson.	Curtis Spangler .	· · · · · op · · · ·	Earl Crowden	op		:		J. Byron Cotton.	do	F. L. Thompson.	Curtis Spangler .	Chipolet Drilling Co.	J. Byron Cotton.			F. L. Thompson.	W. A. Copeland.			
	:	•		:	:	:	•				:	:	•	:		:		:	*	•	•		:
	:	ker	Jefferys.	dargis.	Schulte .	te	hulte .	ounty	argas.	ert gham.	Gargis .	rown.	Dodson .	Gargis	Mexand	Trousdale	ıtten	nes	her	Smith	hitlock	Carter	Whitlock
	:	Jerry Baker.	R. A. Je	Thomas Gargis.	W. O. Sc	Joe Schulte	W. L. Schulte	Colbert County School.	Reeder Gargas	Mrs. Robert Cunningham.	T. M. Ga	Tommy Brown	W. B. Do	T. M. Ga	Delaner Alexander	J. E. Tro	Robert Latten.	H. E. Jones	Will Gotcher	R. A. Sm	Parker Whitlock	W. C. Ca	W. P. W.
	I-13	I-14	I-i5	I-16	I-17	I-18	1-1S	I-20	1-21	I-22	I-23	1-24	I-25	I-26	I-27	I-28	I-29	I-30	I-3i	1-32	I-33	I-34	1-35
1																							

	Remarks	Supplies 2 families.	Supplies 1 family. Casing: 6-in. to 100 ft.; none below. Water has yellow appearance.	Supplies 4 families and 120 head of stock. Drilled in 1920.	Supplies 1 family.	Supplies 2 families. Casing: 6-in. to 80 ft.; none below.	Supplies 1 family.	Supply inadequate.	Do.	Supplies 1 family.	Do.	Observation well. Electric log in files of U.S. Geol Survey.	Supplies 1 family. Casing: 6-in. to 40 ft.; none below. Drilled in 1948.	Known as "Pruitt Spring." Supplies 25 people. Estimated flow, 1,000 gpm on 9-15-55.		Supplies 1 family.	Supplies 1 family. Drilled in 1949.	Supply inadequate for domestic use.	Supplies 1 family.	Known as "Streit Spring." Estimated flow, 3 gpm on 9-16-55.	
Field determinations	(bbm) CgCO3	4	09	92	•	14	18	26	18	32	22	:	20	99	28	89	74	156	46	92	
d detern	Chloride (Cl)	13	17	13	:	13	13	13	13	13	20	•	9	0	20	35	9	42	0	67	
Fiel	Temperature	:	:	:	•	•	•	•	•	•	•	•	:	63	:	:	:	:	:	62	
	Use of water	, Q	Q	N D	Q	Ω	D	D	D	Q	D	Z	Q	S D	Ω	Q	Q	Q	Q	ω	
	Method of lift	J	ſ	ſ	Z	J	ſ	Z	M	ſ	M	M	M	ഥ	Z	Z	ſ	M	ſ	[z ₁	
r level	Date of meas- urement	7- 5-56	7- 3-54	754	7- 2-56	op .:	7- 5-56	op	op	7- 2-56	op	7- 5-56	· · op · ·	•	7-17-56	7- 3-56	op	7- 5-56	3-28-56	:	
Water	Above (+) or below land surface(feet)	87.4	74.9	80	25.0	44	41.4	20.9	19.9	20	10.9	67.0	29.6	•	29.8	20.8	103.4	20.7	12.3	:	
I	Altitude of land (1991) sourface	646	642	656	648	650	643	589	929	564	520	581	537	515	266	627	637	099	556	557	
	Water-bearing formation	ß	Mfp	Mfp	Ø	Mfp	w	Ω	Ø	Mfp	•	Mfp	Mfp	Mfp	S	ω	Mfp	ω	Mfp	Mfp	
IIe	Diameter of we (zehoni)	36	9	9	36	9	36	36	36	9	9	9	9	:	36	36	9	36	9	:	
	Depth of well (feet)	69.69	125.4	87	36.2	100	59.0	30.2	34.9	06	21.2	300	93.9	:	38.0	37.0	158.5	28.6	53.1	•	
	Type	Du	Q	Q	Du		Da	Da	Da									Da	Q		
						Ω		Н		Q	Ω	Д	Q	Ø	Du	Da	Ω			ω	
	Driller					Q				Q	Q	Q	D			<u> </u>				· · · · · · · · · · · · · · · · · · ·	
	Owner	John Gargas	Owen Whitlock	O. J. Whitlock	R. J. Leighton	Marvin Gotcher	William Brown	Earl Dickerson	Lydia Call	Roxi Ricks D	J. Patterson D	Joe King D	Edward Martin D	Leonard Pruitt S	C. Looney	Perry King D	Thornhill	Louise Davis	B. W. Palmer	Leonard Streit S	

W. C. Levis Bud Copeland. D 126.7 6 Mfp 621 70.6 3.28-56 J D 6 94.6 6 Mfp 633 .do J D 1.0 6 Mfp 633 .do J D 1.0 6 Mfp 633 .do J D 1.2 1.0 6 6 Mfp 633 .do J D 1.2 1 4 9 6 1.0 6 Mfp 633 .do J D 1.1 0 6 6 Mfp 633 .do J D 1.1 0 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6	Supplies 2 families. Casing: 6-in. to 101 ft.; none below. Drilled in 1955.	Supplies 9 people and 20 head of stock.	Supplies 21 people.	Supplies 1 family. Drilled in 1952.	Supplies 2 families, 75 chickens, and 5 head of stock. Casing: 6-in. to 104 ft.; none below. Drilled in 1953.	Supplies 2 families. Drilled in 1950.	Supplies 21 people. Drilled in 1946.	Supplies 1 family and 40 head of stock. Casing: 6-in. to 120 ft.; none below. Drilled in 1955.	Supplies 6 families. Drilled in 1950.	Supplies 2 families and 12 head of stock. Drilled in 1955.			Supplies 3 people.	Supplies 6 people.	Supplies 8 people and 1,000 chickens. Bedrock at 74 ft. Drilled in 1955.	Supplies 2 people. Drilled in 1946.	Supplies 9 people. Electric log in files of U.S. Geol. Survey.	Supplies 25 people.	Supplies 5 people.	Supplies 1 family. Casing: 6-in, to 50 ft.; none below. Bedrock at 40 ft. Drilled in 1956.		Supplies 3 people. Water reported to have a yellow color.	Supplies 12 people. Electric log in files of U.S. Geol. Survey.	Supplies 24 people.	Supplies 14 people. Water becomes muddy following rain.
W. C. Lewis Bud Copeland D 128.7 6 Mfp 621 73.6 3.28-56 J D 2 A. L. Bolds A. L. Bolds 63.3 .60 J D J D D D J D <t< td=""><td>94</td><td>62</td><td>142</td><td>40</td><td>38</td><td>90</td><td>124</td><td>64</td><td>89</td><td>130</td><td>64</td><td>:</td><td>94</td><td>156</td><td>*</td><td>102</td><td>104</td><td>148</td><td>140</td><td>:</td><td>178</td><td>78</td><td>210</td><td>116</td><td></td></t<>	94	62	142	40	38	90	124	64	89	130	64	:	94	156	*	102	104	148	140	:	178	78	210	116	
W. C. Lewis Bud Copeland D 126.3 6 Mp 6021 79.6 3-28-56 J D Fir Jarmon F. L. Bolds F. L. Bolds Mp 603 83.3 .40 J B Roberta Lee C. Craft F. L. Thompson D 107.0 6 Mp 63.3 .40 J B L. C. Craft C. Craft C. Craft 6 Mp 63.8 71.1 4.3-56 J D L. C. Craft C. Craft C. Craft C. Craft D 114.2 6 Mp 63.8 71.1 4.3-56 J D E. V. Byth G. Santa Lee J. Byth 6 Mp 64.9 71.7 7-17-56 J D B. V. Byth G. Santa Lee J. Byth 6 Mp 64.9 71.1 4.3-5.6 J D B. W. Byth G. Santa Lee J. Byth Mp 61.9 Mp 61.1 61.0 Mp	9	0	23	27	9	139	6	13	20	13	27	:	16	9	:	9	9	6	9	•	19	13	19	30	30
W. C. Lewis Bud Copeland D 126.3 6 Mp 621 79.6 3-28-56 J R. L. Bolds Bud Copeland D 126.7 6 Mp 68.3 -do J Ira Jarmon Feltz Agramon Feltz Agramon D 107.0 6 Mp 649 71.9 7-17-56 J L. C. Craft Chipolet Drilling D 107.0 6 Mp 628 51.1 4-3-56 J L. C. Craft Chipolet Drilling D 114.2 6 Mp 628 51.1 4-3-56 J Ecltz Reed J. Byron Cotton D 114.2 6 Mt 649 76 -do J John Davenport Charles Richey D 149.9 6 Mt 547 5-16-56 J Welley Hamper J. Byron Cotton D 123.7 6 Mt 571 5-16-56 M P. J. Austin W. Copeland D 1	:		61	:	:		62.5	•	:	:	•	:	62	:	:	61	62	62	62	:	61		62	•	
W. C. Lewis Bud Copeland D 126.3 6 Mtp 621 79.6 3.28-56 A. L. Bolds Bud Copeland D 126.7 6 Mtp 63.3 do Ira Jarmon F. L. Thompson D 126.7 6 Mtp 658.8 3.1.9 7-17-56 Roberta Lee C. Craft C. Craft C. Craft C. Mtp 6.8 Mtp 628 51.1 4-3-56 Feltx Reed J. Byron Cotton D 114.2 6 Mtp 628 51.1 4-3-56 Edward Lewis John Davenport Curtis Spangler D 114.2 6 Mtp 628 51.1 4-3-56 John Davenport J. Byron Cotton D 124.0 6 Mt 54.3 5-16-56 Wesley Hamper J. Byron Cotton D 122.0 6 Mt 54.3 5-16-56 Wallam Davenport J. Byron Cotton D 122.0 6 Mt 53.4 5-16-56	Д	N D	D	Q	ΩS	Д	Q	ΩΩ	Q	ΩΩ	Q	z	D	Q	D 22	Ω	Q	Ω	Q	Q	Ω	Q	Д	Q	Д
W. C. Lewis Bud Copeland D 126.3 6 Mip 621 79.6 3-28-5 A. L. Bolds Fire Jamon D 126.7 6 Mip 653.3 do. Ira Jarmon F. L. Thompson D 94.6 6 Mip 653.3 do. Ira Jarmon F. L. Thompson D 107.0 6 Mip 653.3 do. L. C. Craft Contistence Chipolet Drilling D 107.0 6 Mip 658 51.1 4-3-5 Felix Reed J. Byron Cotton D 114.2 6 Mit 666 97.1 5-17-5 John Bayerport Charles Richey D 1149.9 6 Mit 586 57.1 7-17-5 John Hallberg D 124.0 6 Mit 586 57.1 7-17-5 William Davemport J. Byron Cotton D 122.7 6 Mit 557 5.4 5-9-5 P. D. Austin	r	r	×	ſ	5	r	×	r	ſ	r	M	•	M	r	H	M	M	M	M	r	M	M	M	٦	r
W. C. Lewis Bud Copeland D 126.3 6 Mrp 621 A. L. Bolds Bud Copeland D 126.7 6 Mrp 605 Ira Jarmon F. L. Thompson D 94.6 6 Mrp 605 Roberta Lee Chipolet Drilling D 107.0 6 Mrp 628 L. C. Craft Chipolet Drilling D 105 6 Mrp 628 Edward Lewis Curtis Spangler D 114.2 6 Mrt 646 John Davenport Charles Richey D 124.0 6 Mrt 547 Wesley Hamper Charles Richey D 124.0 6 Mrt 559 John Davenport Charles Richey D 124.0 6 Mrt 559 Willam Davenport Charles Richey D 123.7 6 Mrt 559 P. D. Austin W. Copeland D 100 6 Mrt 559 P	3-28-56	do .	8-5	7-17-56	3-5		op	. · op · ·	7-17-56	5-16-56	-5	5-16-56	do		- 8-5	- 9-5	op	· · op · ·	op		5-16-56	9-2		qo	op
W. C. Lewis Bud Copeland D 126.3 6 Mfp A. L. Bolds C. T. Thompson D 126.7 6 Mfp Ira Jarmon F. L. Thompson D 126.7 6 Mfp Roberta Lee C. Craft D 107.0 6 Mfp L. C. Craft C. Craft D 107.0 6 Mfp L. C. Craft J. Byron Cotton D 114.2 6 Mf Edix Reed J. Byron Cotton D 114.2 6 Mf Beward Lewis Curtis Spangler D 114.2 6 Mt John Davenport Charles Richey D 149.9 6 Mt Willam Davenport J. Byron Cotton D 124.0 6 Mt William Davenport J. Byron Cotton D 123.7 6 Mt P. D. Austin W. Copeland D 123.7 6 Mt P. D. Austin W. Copeland D 136.9 6 Mt P. D. Austin J. Byron Cotton D 136.9 6 Mt W. D. McCarty Charles Richey D 138.4 6 Mt W. D. McCarty Charles Richey D 137.3 6 Mt	79.6	63.3	53.2	71.9	51.1	97.1	56.8	16	57.1	26.3		25.4	53.5	54.1		56.4	35.0	51.1		48	49.2		59.4	58.9	
W. C. Lewis Bud Copeland D 126.3 6 A. L. Bolds 126.7 6 Ira Jarmon F. L. Thompson D 94.6 6 Roberta Lee 7 107.0 6 6 L. C. Craft Chipolet Drilling D 107.0 6 L. C. Craft Chipolet Drilling D 107.0 6 L. C. Craft Chipolet Drilling D 107.0 6 Felix Reed J. Byron Cotton D 114.2 6 E. V. Blyth Curtis Spangler D 114.2 6 John Davenport Charles Richey D 114.2 6 Wesley Hamper J. Byron Cotton D 64.3 6 Walliam Davenport J. Byron Cotton D 64.3 6 Walliam Davenport J. Byron Cotton D 123.7 6 P. D. Austin W. Copeland D 100 6 John Hallberg J. C. Fennel D 100	621	605	578	649	628	909	611	646	586	580	584	547	571	573	580	594	577	589	592	597	594	580	586	583	533
W. C. Lewis Bud Copeland D 126.7 A. L. Bolds D 126.7 Ira Jarmon F. L. Thompson D 94.6 Roberta Lee D 107.0 L. C. Craft Chipolet Drilling D 107.0 L. C. Craft J. Byron Cotton D 114.2 E. V. Blyth D 114.2 114.2 E. V. Blyth D 114.9 1149.9 Wesley Hamper D 124.0 149.9 Wesley Hamper J. Byron Cotton D 64.3 Charles King J. Byron Cotton D 156.9 L. B. Ingram J. Byron Cotton D 148 John Hallberg J. Byron Cotton D 148 J. C. Fennel D 171.3 W. D. McCarty Charles Richey	Mfp	Mfp	Mfp	Mfp	Mfp	Mt	Mt	Mt	Mt	Mt	Ø	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
W. C. Lewis Bud Copeland D A. L. Bolds Bud Copeland D Ira Jarmon F. L. Thompson D Roberta Lee Chipolet Drilling D L. C. Craft Chipolet Drilling D L. C. Craft J. Byron Cotton D Bedward Lewis Curtis Spangler D John Davenport Charles Richey D Wallam Davenport J. Byron Cotton D Wulliam Davenport J. Byron Cotton D Charles King J. Byron Cotton D L. B. Ingram J. Byron Cotton D Lawrence King J. Byron Cotton D W. D. Austin J. Byron Cotton D W. D. Austin J. Byron Cotton D W. D. McCarty Charles Richey D W. D. McCarty Charles Richey D W. D. McCarty Charles Richey D W. D. Wccarty Charles Richey D W. D. Wccarty Charles Richey D W. D. McCarty Charles Richey D W. D. McCarty Charles Richey D W. D. C. Fennel D Wernon Crockett D W. L. Laton D	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	2	9	9	2
W. C. Lewis Bud Copeland A. L. Bolds Roberta Lee Chipolet Drilling Co. L. C. Craft J. Byron Cotton Edward Lewis Curtis Spangler E. V. Blyth J. Byron Cotton Wesley Hamper J. Byron Cotton Walliam Davenport Charles Richey Welly Hamper J. Byron Cotton Charles King J. Byron Cotton L. B. ingram J. Byron Cotton Lawrence King J. Byron Cotton J. C. Fennel Charles Richey J. C. Fennel Nernon Crockett J. C. Fennel			94.6	107.0	105	311		176		149.9		124.0		123.7	100	156.9	400			148	171.3			72.2	
W. C. Lewis Bud Copeland A. L. Bolds F. L. Thompson Roberta Lee. Chipolet Drilling Co. Craft Co. Craft Co. Edward Lewis John Cotton Edward Lewis Curtis Spangler E. V. Blyth J. Byron Cotton Walliam Davenport. Charles Richey. Wesley Hamper John Davenport. Charles Richey. Wesley Hamper John Cotton William Davenport. Charles Richey. Dercy Alexander. J. Byron Cotton William Davenport. Charles Richey. Percy Alexander. J. Byron Cotton Lawrence King. Gharles Richey. John Hallberg. Gharles Richey. John Hallberg. Charles Richey. John Hallberg. Charles Richey. J. C. Fennel. Gharles Richey.	Ω	Ω	Q	Д	Д	Д	Q	Ω	Ω	Q	Dū	Д	Д	Ω	Ω	Q	Ω	Д	Q	Ω	Д	Ω	А	а	Q
W. C. Lewis A. L. Bolds Roberta Lee L. C. Craft Felix Reed John Davenport Wesley Hamper Percy Alexander Wulliam Davenport Charles King P. D. Austin L. B. Ingram L. B. Ingram L. W. D. McCarty yohn Hallberg Vernol Crockett W. D. McCarty J. C. Fennel Wr. D. McCarty W. D. McCarty S. L. Laton	•		ŗ	•	Chipolet Drilling Co.	J. Byron Cotton.	Curtis Spangler .			Charles Richey	•	Byron Cotton		•	Copeland	Byron Cotton		•	•		•				
I-55 I-55 I-56 I-56 I-67 I-61 I-63 I-63 I-64 I-65 K- 1 K- 2 K- 3 K- 3 K- 4 K- 2 K- 3 K- 3 K- 4 K- 1	C. Lewis	L. Bolds	Ira Jarmon	Roberta Lee	C. Craft	•	•	V. Blyth	Jolsen Carr	:	•			King	D. Austin	Ingram	Lawrence King			D. McCarty	C. Fennel	Maude	Vernon Crockett	L. Laton	C. Fennel
	I-55	I-56	I-57	I-58	I-59	09-I	I-61	I-62	I-63	I-64	I-65	K- 1	K- 2	K-3	K- 4	K- 5	K- 6	K- 7	K- 8	K- 9	K-10	K-11	K-12	K-13	K-14

Table 1. --Records of wells and springs in Colbert County, Ala. --Continued

	Remarks	Supplies 2 people.	Supplies 25 people and 100 head of stock,			Supplies 1 family. Drilled in 1925.	Supplies 2 people. Drilled in 1948.	City well.	Supplies 5 people,	Supplies 8 people.	Supplies 15 people.	Supplies 8 people.	Supplies 6 people.		Supplies 5 people. Sulfurous.		Supplies 1 family.	Supplies 5 people,	Supplies 7 people.	Supplies 3 people.	Supplies 18 people, store, and 25 head of stock.	
nations	CaCog CaCog (ppm)	252	901	•		*	158	180	188	116	116	116	154		180		224	168	170	114	142	
Field determinations	Chloride (Cl)	88	33			•	78	6.0	6	6	6	6	9	•	6	0	64	43	16	9	9	
Field	Temperature (°F)	59	0				61	62	62	62	62	62	09	•			63	63	62	09	•	
	Use of water	Q	O S	Z	Z	Q	Q	Д	О	Q	Q	Q	Q	Z	Q	Z	Q	Q	О	Q	O S	
	Method of lift	M	حا	:	Z	O	M	H	×	Z	×	Z	×		H		×	M	M	×	٦	
level .	Date of meas-	5-16-56	op	5-18-56	5-16-56	5-18-56	op	•	5-18-56	op	op	op	op	5-21-56	op	do	5-22-56	5-21-56	5-22-56	do	5-23-56	
Water	Above (+) or below land surface(feet)	14.5	11.3	53.3	44.3	67.0	6.9	0 0 0	60.6	45.4	50.9	46.3	22.1	33.7	49.7	31.5	38.0	31.8	28.4	13.9	15.9	
	Altitude of land (1991) sostrus	536	536	576	592	609	586	587	598	574	581	574	552	565	582	578	605	597	576	579	586	
	Water-bearing noitemaol	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	 -
ell	Diameter of w (inches)	5	9	ಬ	9	9	9	•	9	9	2	9	വ	വ	9	9	S	വ	9	9	9	
	Depth of well	30.6	103.1	65. 6	73.8	100	64.1		131.8	53.3	73.2	57.8	41.2	59.3	107.5	76.3	56.9	46.0	110.9	87.2	80.9	
	Type	Q	Q	Д	Q	Q	Q	Д	Q	Q	Q	Q	Q	Q	Q	Q	Д	Q	Q	Q	Q	
	Driller					W. Copeland	Curtis Spangler .	Peerson Drilling Co.		•				J. Byron Cotton.	do					J. Byron Cotton.		
	Owner	Ernest Cal	W. A. Pullen	Mrs. Percy Alexander.	Leslie King	Wasley Smith	C. C. King	City of Leighton	Leslie King	· · · · · op · · · ·	Mrs. Fritts Delony.	J. M. Lyles	L. H. King, Jr	J. Byron Cotton	· · · · · op · · · ·	C. C. King	Mrs. W. B. Also- brook.	Ben Fennel	Richard Pruitt	Grady Ford	Oscar Posey	
ou S	Well or sprin	K-15	K-16	K-17	K-18	K-19	K-20	*K-21	K-22	K-23	K-24	K-25	K-26	K-27	K-28	K-29	K-30	K-31	K-32	K-33	K-34	

0	

K-54 Cuttin Symmythm D 51.4 6 Mr 54.5 6.0 52.3 Mr 54.6 5.1.3 6.0 1.0 800000000 Propriet or groups K-31 G. C. King 1 1.4 Crowedine Robbins 7.1.2 6 Mr 54.0 6.0 1.0 80000000 1.0 80000000 1.0 80000000 1.0 80000000 1.0 80000000 1.0 80000000 1.0 1.0 800000000 1.0 1.0 1.0 80000000 1.	J																												2	9
C. C. King Samplet			\vdash	Do.	Supplies 6 people.		Water level at 32.02 ft. on 3-1-57.			2	9 people.		Supplies 10 people.			23 people.	5 families.	2 families. Drilled	Observation well.	6 people.		L-	3			$\overline{}$		3 gpm on 3-13-57. Geol. Survey.	F	11 people.
C. C. King Springlet		248	110	282	292	:	:	140	142	162	160	220	164	216	166	154	158	336	0 0	09	136	160	174	166	102	138	0 0	0	94	126
C. C. King Mrs. Mand Fennel C. C. King Mrs. Mrs. Mand Fennel Mrs. Mand Fennel Mrs. Mrs. Fennel Mrs. Mand Fennel Mrs. Mrs. Mrs. Fennel Mrs. Mrs. Mrs. Fennel Mrs. Mrs. Mrs. Mrs. Mrs. Mrs. Mrs. Mrs.		132	9	9	26	:	:	16	13	9	9	9	2	6	9	62	16	9		19	87	12	6	2	6	19			16	6
C. C. King. J. W. Crowden. Robert Drilling. J. C. Bradtord O. C. King. J. W. Hobgood. J. C. Bradtord O. C. King. J. W. Hobgood. J. C. Bradtord O. C. King. J. W. Hobgood. J. C. Bradtord O. C. King. J. W. Hobgood. J. C. Bradtord O. C. King. J. W. Hobgood. J. C. Bradtord O. C. King. J. W. Hobgood. J. C. Bradtord O. D. 129, 9 6 Mt 536 5.3 5.6 5.8 56 Mt 500 Mt	_	29	62	62	61	:		62	:	•	63	09	62	62	:	61	61		•	:	61	61	62		62	63		61		
C. C. King. J. W. Crowden. Rhoden Drilling D. 71.7 6 Mt 584 46.6 5-21-56 J. W. Crowden. Rhoden Drilling D. 71.2 5 Mt 584 47.2do C. King. C. King. C. King. Jun Kirk Fennel Jun Kirk Fennel Jun Kirk Fennel C. P. Counts Jun Kirk Fennel D. 124.8 6 Mt 586 51.7 5-3.56 Jun Kirk Fennel Jun Kirk Fennel D. 124.8 6 Mt 589 50.8 5-8.56 Jun Kirk Fennel Jun Kirk Fennel D. 124.8 6 Mt 589 50.8 5-8.56 Jun Kirk Fennel		Ω	Ω	Ω	Ω	Z	Z	Ω	Q	Ω	Ω	Ω	Ω	Ω	Ω	Ω	D	D	Z	Ω	Ω	Ω	Ω	Ø	Ω	Ω	Z	Z	Ω	Q
C. C. King		×	×	×	×	:		M	×	٦	×	×	×	×	ה	M	D	Ö	M	Ö	×	M	M	D.	M	M			×	M
C. C. King D 51.4 6 Mt 590 12.9 C. C. King MR Spangler D 71.7 6 Mt 594 46.6 J. W. Crowden Rhoden Drilling D 75.2 5 Mt 584 47.2 Mrs. Maud Fennel D 124.8 6 Mt 578 42.0 C. C. King Mand Fennel D 124.8 6 Mt 578 42.0 J. Bathey Counts D 128.4 6 Mt 578 22.8 John Counts D 128.9 6 Mt 578 22.8 John Kirk Fennel D 128.9 6 Mt 578 22.8 John Kirk Fennel D 128.9 6 Mt 578 22.8 John Kirk Fennel D 128.9 6 Mt 578 22.8 John Kirk Fennel D 128.9 6 Mt 578 22.8 John Kirk Fennel D 128.9 6 Mt 578 22.8 John Kirk Fennel D 128.9 6 Mt 578 5 Mt 578 5 John Kirk Fennel D 128.9 6 Mt 578 5 Mt 578 5 John Kirk Fennel D 128.9 6 Mt 578 5 Mt 578 5 John Kirk Fennel D 128.9 6 Mt 578 5 Mt 578 5 John Kirk Fennel D 128.9 6 Mt 578 5 Mt 578 5 John Kirk Fennel D 128.9 6 Mt 578 5 Mt 578 5 John Kirk Fennel D 128.9 6 Mt 578 5 Mt 578 5 John Kirk Fennel D 128.9 6 Mt 578 5 John Kirk Fennel D 128.				op		op	,	1				- 1		do	op		ł	10-27-55		-27			- 1	- 1		- 1		7	- 1	. do .
C. C. King		12.9	46.6	47.2	42.0	41.1	29.8		20.6				34.6	46.9	53.1		45		0		13.9	22.8		27.5	27.9	59.0	2.6			
C. C. King J. W. Crowden. J. W. Crowden. J. W. Crowden. J. W. Crowden. C. C. King C. C. Counts C. C. Counts C. D.	_	290	584	584	578	268	553	586	538	550	542	527	531	543	546	529	532	532	536	533	529	548	537	548	559	587	576	520	547	542
C. C. King		Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	S	Ø	Mt	Mt
C. C. King		9	9	വ	9	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	ശ	rc	Ю	00	9	9
C. C. King J. W. Crowden J. W. Crowden C. C. King C. C. King Esthey Counts John Counts John Counts Go Go J. C. Bradford Go Go J. C. Bradford George Branscomb J. W. Hobgood C. P. Counts George Branscomb Jim Kirk Fennel C. P. Counts Jim Kirk Fennel Bebecca Riley Jim Kirk Fennel C. P. Counts Jim Kirk Fennel Bebecca Riley Jim Kirk Fennel Bebecca Riley Jim Kirk Fennel Go J. Byron Cotton		51.4	711.7		124.8	71.2	128.4	105.3	77.9	90.6	130.1	142.1	81.4	80.6	99.7		70	92		170	56.6	63.6		120.4	65.7			402.0		144.7
C. C. King. J. W. Crowden. G. C. King. C. C. King. Besthey Counts. John Counts. C. P. Counts. do. do. do. do. J. C. Bradford. do. do. J. C. Bradford. do. George Branscomb. J. W. Hobgood. George Branscomb. C. P. Counts. do. J. C. Bradford. do. J. C. Bradford. do. J. C. Bradford. do. J. Byron Cotton J. W. Hobgood. George Branscomb. George Branscomb. Jim Kirk Fennel. C. P. Counts. Jim Kirk Fennel. Bebecca Riley. Jim Kirk Fennel. Jim Kirk Fennel. Bebecca Riley. Jim Kirk Fennel. Jim Kirk Fennel. Bebecca Riley. Jim Kirk Fennel. Jim Kirk Fennel. Bebecca Riley. Jim Kirk Fennel.		Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Q	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Q	Q	Q	Д	Д	Ω	Ω	Ω	Ω	Ω
Curtis Spangler C. C. King J. W. Crowden J. W. Crowden Esthey Counts Frest Uhlman Harrel Sargeant C. P. Counts do do J. W. Hobgood Clarence Phillips J. W. Hobgood George Branscomb C. P. Counts J. W. Hobgood George Branscomb C. P. Counts J. W. Hobgood George Branscomb C. P. Counts Jim Kirk Fennel Jim Birk Fennel B. B. Hawkins Ella King				Rhoden Drilling Co.			:									Rhoden Drilling Co.		Byron				•						. Byron		Byron Cotton
K-35 K-35 K-36 K-38 K-39 L-11 L-12 L-13 L-13 L-14 L-15 L-16 L-17 L-18 L-19 L-20 L-23 L-23		Curtis Spangler	c.	W. Crowden	Mrs. Maud Fennel .	Ċ.	Esthey Counts	John Counts	Ernest Uhlman	Harrel Sargeant	ъ.	· · · · · op · · · ·	op	op	· · · · · op · · · ·	op			₩.		д.	Robert Cambell	Ъ.	Jim Kirk Fennel	Rebecca Riley		. op	Leighton Negro School.	m m	•
		K-35	K-36	K-37	K-38	K-39	L- 1	L- 2	L- 3	L-4	L - 5	1- 6	L-7	L- 8	L-9	L-10	L-11	L-12	L-13	L-14	L-15	L-16	L-17	L-18	L-19	L-20	L-21	L-22	L-23	L-24

	Remarks	Supplies 3 people.	Drilled in 1955.	Supplies 8 people.	Supplies 3 people. Drilled in 1921.	Supplies 12 people and 40 head of stock.	Casing: 6-in. to 26 ft.; none below. Reported yield, 110 gpm in Aug. 1954. Cavity at 72-77 ft.	Casing: 6-in. to 30 ft.; none below. Supplies 7 people and 75 head of stock. Drilled in 1938.	Supplies 5 people.	Supplies 6 people.			Supplies 18 people.	Supplies 17 people.	Supplies 4 people.		Supplies 5 people.	Supplies 5 people. Casing: 6-in. to 30 ft.; none below. Drilled in 1949.	Supplies 6 people.	Supplies 24 people.	Supplies 8 people.	
nations	Hardness as (ppm)	176	•	206	172	152	204	156	06	160	:	:	106	172	120	:	78	136	136	162	06	
Field determinations	Chloride (Cl)	19	•	23	2	23	67	9	6	6	:	•	19	23	16	•	9	23	23	19	23	
Field	Temperature (*F)		•		•		62		•	62	•	•	62	62	:	:	09	•	:	:	63	
	Tetew lo sel	Q	Z	О	Q	O S	Irr	O S	D	Q	Z	z	Q	D	Д	Z	Q	Q	Q	D	Q	
	Method of lift	r		ה	r	O	H	٦	J	M	•	0	M	M	M		M	٦	M	H	Z	
level	Date of meas- urement		10-26-55	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		10-14-55	8 54	5-10-56	6- 4-56	5-10-56	5-31-56	5-10-56	5-28-56	5-15-56	5-28-56	7-15-55	5-22-56	5-28-56	5-31-56	op	op	
Water	Above (+) or below land surface(feet)	10.0	53.6		•	55. 5	3 5	13.7	28.8	18.8	27.6	21.4	31.8	20.0	20.6	45.0	17.8	31.5	49.7	41.2	55.2	
	onsl to ebutitla (teet) esstrus	515	507	512	517	515	506	522	529	536	530	540	552	545	541		565	556	571	554	575	
	Water-bearing formation	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	ğ	Mt	Mt	Mt	
ejj	Diameter of we (inches)	23	9	9	9	9	9	9	9	9	9	9	9	9	9	9	വ	9	9	9	9	
	Depth of well	0 0 0	89.3	•	82	109.0	77	131.1	134.3	84.2	71.6	60.2	64.1	129.1	44.6	65.0	53.1	92.9	103.7	137.0	95.9	
	Type	О	Ω	Д	А	А	А	А	Д	А	Q	Q	Д	Ω	Q	Q	Q	Ω	Д	Д	Q	
	Driller		Bud Copeland	•	J. Byron Cotton.		Bud Copeland	Fred Thompson.	•									Bud Copeland				
	Owner	Madeline Aycock	K. D. Bruton	John Johnson	L. H. McReynolds .	Jim C. Fennel	A. L. Keenum	M. H. Kidd	J. L. Johnson	Homer Isbell	op	Jim Kirk Fennel	Mauldin Fennel	Jim Kirk Fennel	Mrs. Mary Sewell	Mrs. Mary Fennel .	Mrs. John Fennel	W. H. Gargis	John Gargis	Travis Isbell	Mrs. D. Sockwell	
ou :	Well or spring	L-25	L-26	L-27	L-28	L-29	L-30	L-31	L-32	L-33	L-34	L-35	L-36	L-37	L-38	L-39	L-40	L-41	L-42	L-43	L-44	

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Supplies 5 people. Sulfurous.	Supplies 5 people.	Casing: 6-in. to 60 ft.; none below. Drilled in 1954.		Supplies 2 people. Casing: 6-in. to 40 ft.; none below. Drilled in 1953. Sulfurous.	Supplies 3 people.	Supplies 3 people and 5 head of stock.	Supplies 5 people.	Supplies 2 people. Drilled in 1948.	Supplies 13 people. Sulfurous.	Supplies 3 people.	Supplies 4 people. Drilled in 1946,	Supplies 5 people.	Electric log in files of U.S. Geol. Survey.	Known as "Sand Spring." Measured discharge, 1 gpm on 10-31-55.	Supplies 1 family. Drilled in 1956.	Dry during fall.	Colbert County Malarial Control Project. Non-existent, 1957.	Do.	Reported yield, 80 gpm.	Supplies 3 families.	Reported yield, 40 gpm.		Casing: 6-in. to 78 ft.; none below. Supplies minnow ponds. Cavity from 71 to 74 ft. Water muddy following rain.	Reported yield, 500 gpm on 11-6-56.
358	402	280	:	328	152	172	180	108	334	62	198	636	:	4	162	:	:	•	•	190	214	138	258	
19	57	19	:	0	33	16	12	16	128	23	16	197	:	23	30	:	:	:	:	2	9	2	0	:
61	62	:	:	:	62		09	:	63	62	62	:	:	29	:	:	:	•	09	:	09	:	:	•
D	D	N D	Q	D	D	N D	D	D	D	D	D	D	Z	z	D	Q	Z	Z	Ъ	D	Ъ	D	Ind	Ind
Z	M	O	×	٦	M	٦	M	H	Z	M	M	M	:	Įz,	r	M	:	:	H	Ö	[-	J	J.	H
6- 1-56	op	10-14-55	op	10-10-55	10-12-55	6- 1-56	do	op	5-31-56	op	5-28-56	op	6- 5-56	10-31-55	5-28-56	5-23-56	11- 3-48	1- 6-50	8- 6-29	10-25-55	8- 6-29	10-27-55	1954	11- 6-56
79.0	45.6	•	:	43.8	37.6	37.0	6.2	51.7	26.0	39.2	29.6	22.3	160	•	8.8	5.1	23.4	6.2	74.0	:	65.0	70.8	59	•
594	240	543	543	497	492	544	202	572	551	572	579	585	723	750	576	578	512	202	531	516	510	520	505	200
Mt	Mt	Mt	Mt	Mt	Mt	Mt	W	Mt	Mt	Mt	Mt	Mt	Mh	Mh	Mt	w	Mt	Mt	Mfp	Mfp	Mfp	Mt	Mt	Mt
9	S	9	9	ė	9	9	9	9	2	9	9	9	9	•	9	9	:	:	_∞	9	∞	9	9	ω
96.4	119.6	265	69	93.8	80.8	171.2	12.2	137.4	55.9	79.7	132.7	97.0	350	:	46.5	29.5	58: 8	8.09	200	:	165	104.1	119	170
Ω	Q	Q	Q	Q	D	Q	Q	Q	Q	Q	D	D	Д	W	Ω	Q	Ω	Ω	Q	Ω	Q	Ω	Q	Q
		Bud Copeland		Bud Copeland	:	J. Byron Cotton .		Bud Copeland	Ben Botley		J. Byron Cotton.		Charles Richey		Charles Richey				:				Earl Crowden	J. Byron Cotton.
Thomas Bickley	Ruby Brown	op	op	W. W. McDonald	J. M. Willis	David Thomas	Thomas Bickley	Clyde McGee	Fred Ricks	Joe King	Mrs. A. B. Rhoden.	Ed Maulton	Edgar Keiser, Jr	Edgar Keiser, Sr	Durwood Posey	Minnie P. Moore	State of Alabama	op	Town of Muscle Shoals.	W. A. Borden	Town of Muscle Shoals.	Macon Willis	J. S. Reid	Robbins Tule Co
L-45	L-46	L-47	L-48	L-49	T-20	L-51	L-52	L-53	L-54	L-55	T-56	L-57	L-58	L-59	T-60	L-61	L-62	L-63	M- 1	M- 2	*M- 3	M- 4	M- 5	M - 6

	Remarks	Reported yield, 100 gpm on 11-6-56.	Dry part of time.	Sample log in files of U.S. Geol. Survey.	Known as "Bubbling Spring." Estimated discharge, 5 gpm on 9-19-55.	Sample and electric logs in files of U.S. Geol. Survey.	Supplies 1 family.		Casing: 10-in. to 66 ft.; none below. Pumped at 525 gpm. Supplies water for cooling.	Casing: 6-in. to 60 ft.; none below. Supplied 14 families in past.			Supplies store and service station.		Known as "Tuscumbia Spring,"	Pumped at 60 gpm.	In 1955-56 pumped total of 9,146 million gallons. Of this, 6,053 million gallons returned to land.	Pumped at 600 gpm for 24 hours, 6 days a week.		Casing: 6-in. to 43 ft.; none below. Measured drawdown, 2.4 ft. after 3 hours pumping at 16 gpm, 10-5-55.
nations	Hardness as CaCO ₃ (ppm)		•	4	148	192	184		•	•				172	192		•	176	:	568
Field determinations	Chloride (Cl)	•	0	13	82	1.5		•	0	•	•	0	•	9	2	0	•	4	:	16
Field	Temperature (T°)			62	29	62		**	0	•	•	•		•	62.2	•	•	:	•	62
	Teisw lo seU	Ind	z	Z	Ø	Z	Q	z	Ind	Z	Z	Z	Д	Z	Д	Z	Ind	Ind	z	Q
	Method of lift	H	•	•	[<u>z</u> 4		حر	•	H	•	•	•	C		<u> </u>	•	H	[H	H	H
level	Date of meas- urement	11- 6-56	7-28-55	8-22-56	9-19-55	6- 3-57	11- 2-55	7-29-55		do	do	do	do	do	•	10-20-55	12-21-55	do	op	10- 3-55
Water	Above (+) or below land surface (feet)		53.8	69.2	•	97.6	0 0 0	•		86.1	•	29.8	0 0	26.0	•	9.92	•	•	•	82.4
	Altitude of land (feet) sourface	200	481	485	410	520	532	505	460	520	448	450	449	446	427	527	506	506	206	510
	Water-bearing formation	Mt	W	Mt	Mt	Mt Mfp	Mfp	Mfp	Mfp	Mfp	Mt	Mt	Mt	Mt	Mt	Mfp	Mfp	Mt	Mfp	Mfp
IIe	Diameter of we (inches)	9	48	9	•	9	9	9	10	9	9	9	9	9	•	9	∞	∞	10	မ
	Depth of well (feet)	125	63.0	335.0	•	335.0	154	184	196	173.0	0.06	69.4	23	•	•	238.0	189	91	181	225. 5
	Lype	Q	Du	Q	W	Q	Q	Q	Q	Q	Q	Ω	Q	Q	W	Q	Q	Q	Q	Д
	Driller	J. Byron Cotton.	•	Hawley Dodson		Hawley Dodson	R. C. Capley			Curtis Spangler.		•				Curtis Spangler .	J. Byron Cotton.	do	op	
	Owner	Robbins Tile Co	Helen Figures	U.S. Geol. Survey .		U.S. Geol. Survey .	Odell Young	H. N. Morris	Tuscumbia Ice Co	Fred Dobbs, Sr	Grady Douglas	M. D. Tuggle	R. L. Reaves	M. White	City of Tuscumbia	do	Robbins Tire & Rubber Products, Inc.	op	do	Charles Carmichael
ou.	Well or spring	M- 7	M - 8	*M- 9	M-10	*M-11	M-12	M-13	M-14	M-15	M-16	M-17	M-18	M-19	*M-20	M-21	M-22	*M-23	M-24	M-25

0	9
5	

1																-										33	3
and Market	Casing: 6-in. to 48 ft.; none below. Supplies 1 family. Drilled in 1953.	Supplies 2 families. Drilled in 1948.	Supplies 1 family. Drilled in 1945.	Supplies 1 family. Drilled in 1951.		Supplies 2 families.	Supplies 1 family.	Supplies 1 family. Drilled in 1952.	Supplies 1 family. Drilled in 1952.	Supplies 2 families.	Supplies 3 families. Reported yield, 11 gpm on 11-2-55.	Supplies 4 families.	Supplies 1 family. Drilled in 1947.	Supplies 1 family. Drilled in 1937.	Supplies 3 families and 10,000 chickens. Casing: 6-in. to 43 ft.; none below. Drilled in 1945.	Water muddy when pumped heavily. Drilled in 1949.	Supplies 1 family. Drilled in 1953.	Supplies 2 families. Drilled in 1940.	Supplies 1 family. Drilled in 1953.	Supplies 1 family.	Supplies 3 families and store. Drilled in 1948.	Supplies 3 families. Drilled in 1938.	Supplies 1 family and 12 head of stock.	Drilled in 1955.	Supplies 1 family. Drilled in 1954.	Supplies 2 families.	Supplies 2 families and 50 head of stock. Drilled in 1950.
	246	234	216	204	222	156	160	164	140	160	168	204	188	178	170	•	160	202	180	176	178	350	228	:	274	134	180
	67	22	12	0	2	2	2	2	0	0	_α	≈.	0	0	2	:	23	87	67	87	~~	4	2	:	44	2	72
	•		•	:	:	:	:	•	:		63	•	62		6 0		:	:	:	:	:	•	61	•	:	61	:
	Q	D	D	Q	Z	D	Q	Q	D	D	Q	O S	Q	Q	O S	Z	D	Q	Q	Q	D	Q	Q S	Z	Q	Q	S
	E	Ö	H	5	M	۵	٦	۵	Ь	Ь	٦	b	×	Ö	Ö		J	٦	٦	٦	Ö	Ö	Ö	:	٦	×	E
	9-13-55	op	1955	855	9-13-55	10-25-55	6-25-55	10-25-55	op	6-25-55	10-25-55	10-26-55	10-25-55	1945	op	10-19-55	op	10-26-55	10-17-55	op	op	9-14-55	10-19-55	9-28-55	154	10-18-55	op
	79.3	:	29	61	•	32	55	•	57.2	:	68.4	• • •	76.0	20	55	51.6		:	30.3	41.1	:	:	:	81.5	111	73.7	
	200	503	502	497	492	499	497	504	200	505	519	518	531	518	516	502	498	514	491	497	208	516	503	206	515	497	497
	Mfp	Mfp	Mfp	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mfp	Mt	Mt	Mt	Mt	Mt	Mt	Mfp	Mfp	Mfp	Mfp	Mt	Mt
	9	9	9	9	•	9	9	9	9	:	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	210	200	190	101	•	102	100	111	121.2	•	81.8	:	111.3	100	169	87.9	107	120	68.0	74.4	105	144	•	147.9	138	103.0	144
	Ω	Д	Q	А	Ω	Д	Q	Д	Q	Д	Ω	Ω	Q	Д	Д	Д	Q	Q	Д	Д	Q	Q	Ω	Q	Ω	Ω	Q
	J. Byron Cotton.	op	ор			Earl Crowden		R. C. Capley	op				J. Byron Cotton.	Rhoden Drilling Co.	Fred Thompson .	Chipolet Drilling Co.	Charles Richey	Bud Copeland	op	•	Bud Copeland	Rhoden Drilling Co.	:		Bud Copeland		Bud Copeland
	G. H. Henderson	Homer Creel	W. A. Borden	H. E. Singleton	A. B. Davenport	W. W. Phillips	J. J. Jordan	William R. Malone.	Clay Willis	Elmore Brown	Cecil Huston	A. B. Blackburn, Jr.	George Rhoden	S. L. Rogers	Lonie Ebell	C. O. McDougal	op	H. E. Sockwell	W. H. Copeland	Lula Mae Sockwell.	Robert Downing	T. B. Elliott	W. C. Smith	Edward Foster	G. W. Sockwell	J. K. Johnson	Leonare Isbell
	M-26	M-27	M-28	M-29	M-30	M-31	M-32	M-33	M-34	M-35	M-36	M-37	M-38	M-39	M-40	M-41	M-42	M-43	M-44	M-45	M-46	M-47	M-48	M-49	M-50	M-51	M-52

Supplies 7 families, sawmill, and several head of stock. Supplies 1 family. Casing: 6-in. to 100 ft.; none below. Drilled in 1949. and 20 head of stock. in 1941 Drilled in 1944 in 1949. Drilled Remarks Drilled Drilled Supplies 4 families. Supplies 3 families Supplies 3 families Supplies 3 families Supplies 16 people Supplies 21 people, Supply inadequate. Supplies 1 family. 1 family. Supplies 3 people. Supplies 1 family. Supplies 1 family. Supplies 1 family Supplies 1 family Cavity at 115 ft. Cased to 27 ft. Supplies Sulfurous (wdd) Field determinations 198 226 218 280 256 498 340 CaCO₃ 232 204 228 268 192 166 222 154 324 Hardness as (CI) 9 0 2 0 0 179 12 13 19 Chloride Temperature (*F) • 62 64 63 64 9 Use of water A A Q A A Q Д Q Ω Q D v2 Ω Ω g D А Z A А z \mathbb{Z} \circ Ö Ö Ö × × Ь 5 × × Ь Ь Ь **-**Ы Ы Ь Method of lift 8-55 10-18-55 9-13-55 9-14-55 7-26-55 7-29-55 7-26-55 9-13-55 8-17-55 7-26-55 -53 urement 1942 1933 g qo go g o ф Date of meas level 11-12-Water surface(feet) 6 below land 106. 4 44. 56. 70. 87. 80 22 55 77 61 94 To (+) evodA surface (feet) 494 502 513 499 489 519 508 455 467 519 499 516 520 556 542 462 501 521 491 561 Altitude of land formation Mfp Mfp Ms Mt × Water-bearing ß (inches) 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 Diameter of well 48 9 134.8 (1991) 111.6 Depth of well 118. 94. 199 49. 58. 16. 128 108 197 164 206 250 111 120 280 146 Type 呂 Da Q Ω Q P Q \Box Q Q А Q А Ω A Ω A Q Q Byron Cotton Fred Thompson Rhoden Drilling Co. Rhoden Drilling Fred Thompson Byron Cotton Rhoden Drilling Rhoden Drilling Co. McGuire Driller ç ပ္ပိ Ö Walker Lumber Co Lonnie Carpenter Edward Scoggins. Walker Minnie Critener Crawford Harvey Phillips C. Cabaniss. Eugene Taylor Edwards Sockwell Holland Owner Smith. Walker Price Counts Enlow. Whites Store Gains Webb Love m m L. Curtis ä B. 드 `. Ĥ. ë B. Ω. ပ 山 ပ 回 Ą. $\ddot{\circ}$ ۲, M-55 M-53 M-54 M-56 M-57 M-60 M-58 M-59 M-62 M-63 M-64 M-65 99-W Well or spring no. M-61 M-67 M-68 M-71 M-72

44-73 K. C. Derustrum D. McCarrier D. 120 6 M.1 552 6 3 5 6 3 5 6 M.1 552 6 9 6 9 6 M.1 552 6 1 9 6 552 6 M.1 552 6 9																									35
R. O. Flarcham D. 120 6 MI 522 11-8-55 J D 144 Mumin Davis O. McGuire D. 128 6 MI 522 0. 11-8-55 J D 148 M. G. Greasy Corrasy Courtis Spangler D 118 6 MI 545 -4 D 9 Mrs. Robert Carry O. McGuire D 148 6 MI 544 -3-54 J D 9 Mrs. Robert Carry D 148 6 MI 544 -3-54 J D 9 Mrs. Robert Carry D 1425 6 MI 544 -3-54 J D 9 W. J. Dedron D 120 MI 488 45.0 4-53 J D 13 Artur Blackbarn D 117.1 6 MI 492 -7-21-55 M D 13 Artur Blackbarn W. H. Copcialm D	Supplies 1 family.		1 family.		Geol.	1 family.	က		5	4 people and 55 head of	of	Supply inadequate for irrigation.	\vdash	Known as "Sink Spring." Discharge 200 gpm on 8-6-29 (Johnston, 1933).	Supplies 1 family.	family and 4 head of stock. 9 ft.; none below.	Supply madequate.	6			Supplies 11 people.	Casing: 8-in. to 31 ft.; none below. Pumped at 24 gpm with drawdown of 82 ft. Drilled in 1954.	Reported yield, 1.3 d in 1945.		12
R. O. Burcham D. 120 6 MI S22 11-8-55 J D Munne Davis O. M. Golire D. 128 6 MI 552 0. 11-8-55 J D M. G. Greesy O. O. M. Golire D. 118.5 6 MI 551 1 D Mrs. Robert Carry D. O. M. Golire D 425 6 MI 551 1 D W. J. Dakort Carry D. O. M. Golire D 123 6 MI 544 6. 7.20-55 J D H. J. Dakort Carry D. O. M. Collidad D 120 MI 49.0 9.21-55 M D D D MI 48.0 9.21-55 M D D M <td< td=""><td>130</td><td>456</td><td>488</td><td>206</td><td>370</td><td>220</td><td>134</td><td>:</td><td>196</td><td>:</td><td>246</td><td>:</td><td>:</td><td>194</td><td>230</td><td>230</td><td>238</td><td>192</td><td>:</td><td>122</td><td>146</td><td>100</td><td>276</td><td>120</td><td>198</td></td<>	130	456	488	206	370	220	134	:	196	:	246	:	:	194	230	230	238	192	:	122	146	100	276	120	198
R. O. Burcham D. 120 6 Mt 522 11-8-55 J D M. G. Grensy O. McGuire D. 128 6 Mt 553 54.8 11-9-55 M D Louis Davis O. McGuire D. 149 6 Mt 553 54.8 11-9-55 M D Louis Davis O. McGuire D. 149 6 Mt 583 54.8 11-9-55 M D Mrs. Robert Carry O. McGuire D 425 6 Mt 488 45.0 455 J D W. J. Dodson D 120 6 Mt 488 45.0 455 J D Arthur Blackburn D 120 6 Mt 488 45.0 453 J D Arthur Blackburn D 171.7 6 Mt 479 -0.0 9-14-55 M D Arthur Blackburn Mt 170 6 Mt 479	14	9	36	G	13	19	13	•	9		9		:	9	2	9	9	9	•	9	6	9	9	9	9
R. O. Burcham D. 120 6 Mt 522 11. 8-55 J Minite Davis O. McGuire D. 128 6 Mt 562 3-54 J Louis Davis O. McGuire D. 118.5 6 Mt 56.2 3-54 J Louis Davis O. McGuire D. 120 6 Mt 54.8 11-9-55 M Mrs. Robert Gary D. McGuire D. 225 6 Mt 56.0 4-53 J W. J. Dodson D. 120 6 Mt 488 45.0 4-55 J W. J. Dodson D. 120 6 Mt 488 45.0 4-55 M W. J. Dodson D. 120 6 Mt 488 45.0 4-55 M W. J. Dodson D. 120 6 Mt 479 49.0 9-14-55 M John L. Carton D. 171.7 6 Mt 479 49.0 19-15-55 J Go. C. O. McCaure	:	:		:	:	:	:	*	63	:	:		09	60.3		:	61	:	:	63	63	:	:		63
R. O. Burcham D 120 6 Mt 522 11-8-55 J Minnie Davis O. McGuire D 128 6 Mt 552 11-8-55 J M. G. Greasy Couris Spangler D 118-5 6 Mt 565 11-9-55 M Louis Davis O McGuire D 1489 6 Mt 544 11-9-55 M Mrs. Robert Gary Bud Copeland D 425 6 Mt 444 11-9-55 M W. J. Dodson D 120 6 Mt 488 45.0 453 J W. J. Dodson D 120 6 Mt 492 7-19-55 J Arthur Blackburn D 110 6 Mt 475 7-10-55 J Arthur Blackburn Mary W. Kirk Mt 475 7-10-55 J Mt 475 7-10-55 J Adobin L. Carton </td <td>Q</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>O S</td> <td>S D</td> <td>Z</td> <td>D</td> <td>S D</td> <td>S D</td> <td>Z</td> <td>D</td> <td>Z</td> <td>D</td> <td>N D</td> <td>Q</td> <td>O S</td> <td>Z</td> <td>Q</td> <td>D</td> <td>S</td> <td>Q</td> <td>S D</td> <td>Q</td>	Q	D	D	D	D	O S	S D	Z	D	S D	S D	Z	D	Z	D	N D	Q	O S	Z	Q	D	S	Q	S D	Q
R. O. Burcham D. 120 6 Mt 522 11- Mnnie Davis O. McGuire D 128 6 Mt 552 11- M. G. Greasy Curtis Spangler D 118.5 6 Mt 563 54.8 11- Louis Davis O. McGuire D 149 6 Mt 54.8 11- 72 Mrs. Robert Cary Bud Copeland D 120 6 Mt 488 45.0 4- W. J. Dodson D 120 6 Mt 488 45.0 4- Mary W. Kirk D 117.7 6 Mt 49.0 9- Achur Bleck Mary W. Kirk D 170 6 Mt 45.0 4- Ado Go M 475 6 Mt 45.0 9- Mary W. Kirk D D 170 6 Mt 475 40 <tr< td=""><td>٦</td><td>ŗ</td><td>M</td><td>J</td><td>M</td><td>J.</td><td>J.</td><td>M</td><td>M</td><td>J</td><td>Ö</td><td></td><td>Ö</td><td>E4</td><td>J</td><td>J</td><td>Z</td><td>J</td><td></td><td>Z</td><td>Z</td><td>Ö</td><td>Ö</td><td>J.</td><td>×</td></tr<>	٦	ŗ	M	J	M	J.	J.	M	M	J	Ö		Ö	E4	J	J	Z	J		Z	Z	Ö	Ö	J.	×
R. O. Burcham D 120 6 Mt 522 Mmnne Davis O. McGuire D 128 6 Mt 532 M. G. Gressy Curtis Spangler D 118.5 6 Mt 545 Louis Davis O. McGuire D 149 6 Mt 545 Mrs. Robert Cary Bud Copeland D 425 6 Mt 544 W. J. Dodson D 425 6 Mt 544 W. J. Dodson D 120 6 Mt 488 B. Findley D 171.7 6 Mt 475 John L. Carton D 60.0 6 Mt 475 Mary W. Kirk Mt 75 Mt 475 Mt 475 do W. H. Copeland D 60 6 Mt 475 do W. H. Copeland D 82 Mt 516 Herry Pilgrim Lavenger and D 86.4 Mt 516 do W. H. Copeland D 96.4 Mt 516 Herman Cook Mt 523 Mt 516 do B 86.8 Mt 519 do B 75.4			0	do	7-20-55	7-19-55	'	9-14-55	9-21-55	op	7-21-55	-		op	1955	1946	10-13-55	9-21-55		. do .	. do .	1954	9-21-55	op	7-20-55
R. O. Burcham D 120 6 Mt Mnnnie Davis O. McGuire D 128 6 Mt Munnie Davis O. McGuire D 148 6 Mt Louis Davis O. McGuire D 149 6 Mt Mrs. Robert Gary Bud Copeland D 149 6 Mt W. J. Dodson D. McGuire D 120 6 Mt W. J. Dodson D 120 6 Mt W. J. Dodson D 170 6 Mt Arthur Blackburn D 60 6 Mt John L. Carton D 60 6 Mt Mary W. Kirk D 60 6 Mt Mary W. Kirk D 75 Mt Mo D 60 6 Mt Mary W. Kirk Mr D 60 6 Mt Mo D 60 6 Mt Mary W. Kirk Mr Mr Mr Mr Mary W. Kirk Mr Mr Mr Mr <	:	09		•	61.3	:	45.0	73.0	49.0	:	:	40	50.3	:	39	40	73.0	•	51.9	74.8	80.9	65	:		
R. O. Burcham D 120 6 M. Minnie Davis O. McGuire D 128 6 M. G. Greasy Curtis Spangler D 149 6 M. G. Greasy O. McGuire D 149 6 M. J. Dodson O. McGuire D 120 6 W. J. Dodson D 120 6 Arthur Blackburn D 60.0 6 John L. Carton D 60.0 6 Mary W. Kirk W. H. Copelaid D 170 6 Mary W. Kirk S S S Go G G G G H. L. Isbell B 80.0 G G H. L. Isbell B 87.0 G G Wesley Smith J. Byron Cotton D 205 G Wesley Smith J. Byron Cotton D 205 G Herman Cook B 86.8 S M	522	532	563	545	511	544	488	501	479	485	492	510	510	475	510	536	514	491	484	504	515	499	523	504	504
R. O. Burcham D 120 Minnie Davis O. McGuire D 128 M. G. Greasy Curtis Spangler D 149 M. G. Greasy O. McGuire D 149 Mrs. Robert Gary Bud Copeland D 425 W. J. Dodson D 120 W. J. Dodson D 170 Mary W. Kirk D 600 John L. Carton D 600 Arthur Blackburn D 60 Go S Wesley Smith D 88 Wesley Smith J. Byron Cotton D 96.4 W. H. Copeland D 86.8 Olive Brown J. Byron Cotton D 205 W. H. Copeland D 96.4 Sid Wallace D 112.9 W. H. Copeland D 112.9 Herman Cook D 96.4 W. H. Copeland	Mt	Mt	Mt	Mt	Mfp	Mt	Mt	Mfp	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mfp	Mfp	Mt	Mt	Mfp	Mfp	Mfp	Mt
R. O. Burcham 0. McGuire D 120 M. G. Greasy Curtis Spangler D 149 Louis Davis O. McGuire D 149 Mrs. Robert Gary Bud Copeland D 425 do O. McGuire D 120 w. J. Dodson D 171 Arthur Blackburn D 60 John L. Carton D 60 John L. Carton D 60 do W. H. Copeland D 60 do W. H. Copeland D 82 do W. H. Copeland D 86 do W. H. Copeland D 86 do W. H. Copeland D 96 Sid Wallace W. H. Copeland D 96 Sid Wallace W. H. Copeland D 112: do W. H. Copeland D 112: Herman Cook Earl Crowden D 205 do W. H. Copeland D 36 do W. H. Copeland D 112: Herman Cook Earl Crowd	9	9	9	9	9	:	9	9	9	9	ಬ	9	9	:	9	9	9	9	2	9	9	œ	9	∞	9
R. O. Burcham M. G. Greasy O. McGuire M. G. Greasy O. McGuire Louis Davis O. McGuire Mrs. Robert Gary Bud Copeland Go O. McGuire W. J. Dodson W. H. Copeland Arthur Blackburn O. McGuire John L. Carton W. H. Copeland Mary W. Kirk O. do W. H. Copeland Obn L. Isbell Co. do W. H. Copeland Sid Wallace J. Byron Cotton Co Olive Brown W. H. Copeland Sid Wallace Sarl Crowden Codo Olive Brown W. H. Copeland Sid Wallace Sarl Crowden Codo District	120	128		149	425	•	120	171.7	0.09	:		170	09	•	82	93		205	86.8		112.9	213	187	221	
R. O. Burcham M. G. Greasy O. McGuire Louis Davis O. McGuire Mrs. Robert Gary Bud Copeland do O. McGuire w. J. Dodson Bud Copeland w. J. Dodson O. McGuire w. J. Dodson O. McGuire mary w. Kirk O. McGuire do O. McGuire do O. McGuire web O. McGuire W. J. Dodson O. McGuire Mary w. Kirk O. M. H. Copeland do O. W. H. Copeland wesley Smith J. Byron Cotton Olive Brown W. H. Copeland Sid Wallace O. W. H. Copeland Weed Estate J. Byron Cotton L. W. Reed J. Byron Cotton	Q	Q	D	Q	Q	Ω	Q	D	D	Q	Q	D	D	S	D	Д	Q	Q	Q	Q	Q	Q	Q	D	Q
R. O. Burcham Minnie Davis M. G. Greasy Louis Davis W. J. Dodson W. J. Dodson Arthur Blackburn John L. Carton do do do do H. L. Isbell Olive Brown Sid Wallace Sid Wallace Herman Cook L. W. Reed Estate		O. McGuire	Curtis Spangler.	O. McGuire	Bud Copeland							H.				Rhoden Drilling Co.	Lavenger and Lowery.		:	H. Copeland			C. Capley		
M -73 M -74 M -75 M -75 M -75 M -76 M -77 M -82 M -83 M -83 M -87 M -83 M -83 M -90 M -91 M -92 M -92 M -92 M -92 M -95 M -95 M -95	ó	Minnie Davis	G. Greasy	:	Robert Gary.	:	J.	Findley	Arthur Blackburn		Mary W. Kirk	op	:	do	op	L. Isbell	Perry Pilgrim	Wesley Smith	op	Olive Brown	Sid Wallace	Herman Cook	•	Reed Estate	W. Reed
	M-73	M-74	M-75	M-76	M-77	M-78	M-79	M-80	M-81	M-82	M-83	M-84	M-85	M-86	M-87	M-88	M-89	M-90	M-91	M-92	M-93	M-94	M-95	96-W	M-97

	Remarks	Supplies 5 people.	Do.	Supplies 5 people. Drilled in 1953.	Casing: 6-in. to 30 ft.; none below. Supplies 3 people.	Supplies 2 houses and store.	Drilled in 1955.	Supplies 6 people. Drilled in 1946. Slightly sulfurous.	Supplies 2 people.	Supplies 4 people. Casing: 6-in. to 12 ft.; none below. Drilled in 1953.	Supplies 2 people. Casing: 6-in. to 12 ft.; none below.	Known as "Milk Spring." Discharge estimated 0.5 gpm on 8-31-55.	Druled in 1955.	Supplies 3 people.	Supplies 1 family and store.	Sulfurous.			Dry on 11-9-55.	Supplies 10 people. Drilled in 1953. Sulfurous.	
determinations	as seanbish CaCO3 (ppm)	240	116	210	172	204	• ,	280	206	14	00	44	18	22	236	•	•	•	•	428	
determ	Chloride (Cl)	67	9	~	6	6	•	N	6	9	2	0	2	40	4	•	•	•	•	9	
Field	Temperature (°F)		63		0 0	*	0 0	0	62	63	64	63	63	63	•		•	•	•	•	
	Use of water	Q	Q	Д	Q	Q	Z	Q	Q	Q	Q	Z	Z	Q	Ω	Z	Z	Z	•	Q	
	Method of lift	O	Z	در	O	Ö		ה	×	×	×	[II	0	×	٦	:	•	٦		ى	
level	Date of meas-	9-21-55	9-28-55	1954	1948	9-20-55	9-15-55	. op	do	. op	ор	8-31-55	9-15-55	op	11-8-55	11- 9-55	op	op	•	11-14-55	
Water lev	Above (+) or below land surface(feet)	92.6	66.2	71	99	53	104.6	89.6	124.9	25.6	23.3	e e e	43.4	27.3	9.92	135.5	23.3	153.6	•	40.1	
	Altitude of land (feet)	518	206	514	512	496	533	524	545	845	841	650	849	838	511	559	557	575	574	469	
	Water-bearing formation	Mfp	Mt	Mt	Mt	Mfp	Mfp	Mfp	Ms	Mh	Mh	Mh	Mh	ω	Mt	Mfp	₩	Mfp	Mt	Mg	
Ile	Diameter of we (ashori)	9	9	9	9	9	9	9	9	9	9	•	9	48	9	9	42	9	9	9	
	Depth of well (feet)	225	77.3	111	72	133	163.3	185	129.9	45.4	40.0	•	59.7	29.9	119	188.3	24.0	236	143.6	113	
	Type	Q	Q	Q	Ω	Q	Q	Д	Д	Д	Q	ſΩ	Д	Da	Q	Ω	Du	Ω	Q	Ω	
	Driller	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Curtis Spangler .	Bartley and Lowery.		Bud Copeland			Chipolet Drilling Co.	Edgar Brown		Chipolet Drilling Co.	•	Walter McCormick			•	•	O. McGuire	
	Owner	Herman Cook	Davis Janson	Looney Huggins	C. C. Hovater	W. H. Dean	Terry Byrson	W. W. Carroll	J. C. Martin	J. B. Henson	W. A. Trousdale		Edgar Brown	Lee Henson	N. C. Willingham	ор	do	B. Borden	do	V. T. Young	
ou :	Well or spring	M-98	M-98	M-100	M-101	M-102	M-103	M-104	M-105	M-106	M-107	M-108	M-109	M-110	M-111	M-112	M-113	M-114	M-115	M-116	

Mail Collect County Day St. 4.6 S. 5.6 S. 1.1 S. 1.1																											3	7
Wary Bell Elinott Diagram 39, 1 48 5 5555 21, 2 11-17-55 M D 62 33 Schools. 3 Collect County Bod Copedand D 148, 2 15 Mh 665 104, 7 11-16-55 M D 19 13 10 11-16-55 M D 19 10		Supplies 7 people.	Supply madequate.	Dry hole.	Supply inadequate.		Supplies 1 family.	8-in. to 42 ft.; none below. Pumped om for 24 hours in August 1954.	Supplies 14 people.	Supply inadequate.	Supplies 1 family.	Supply inadequate.	Do.	1 family.	$\overline{}$	Do.	7 people and	$\overline{}$	family.	$\overline{}$	6	family.	and 75 head of stock.	6-in. to 35 ft.; none below.	family. Casing: 6-in. to	2	1 family.	-
Mary Bettl Ellitett Day (20.1) 48 S 855 21.2 11-17-56 M D 62 Colhect County Bad Copelland D 190 13 863 21.2 11-17-56 M D 62 6 Mh 873 104.7 11-16-55 J P P	7	14	:	:	:	22	28	242	298	16	10	:	:		54	46	204	222	328	356	246	222	238	314	100	166	236	152
Mary Bell Elliott Du 29, 1 48 S 855 21.2 11-17-55 M D 29, 1 48 S 855 21.2 11-17-55 M D 92, 0 148.2 15 M 863 104.7 11-18-55 J P Schools. J P P P P P P P P P P P P P P P P	c c	88 88	:	:	•	9	30	7	9	9	2	:	:		2	2	П	13	4	21		2	23	9	39	16	13	6
Mary Bell Elliott Du 29.1 48 S 8955 21.2 11-7-55 M D Schools. Colbert County Bud Copeland D 148.2 15 Nh 883 104.7 11-16-55 J P Cobert County dob J 190 13 Nh 883 104.7 11-16-55 J P Ado J J 190 13 Nh 883 104.7 11-16-55 M Nh Ado J J 34.0 10 Nh 864 17.5 11-16-55 M Nh Ado J D 34.0 0 Nh 864 17.5 11-16-55 M Nh Ado D 34.0 0 Nh 864 17.5 11-16-55 M Nh Ado D 43.0 0 Nh 873 11-16-55 M D 11-17-55 Nh D 11-	69	29	•	:	:	64	63	:	63	63	63		•	:		62	61	62	63	63	63	63	:	:	•	62		
Mary Bell Elliott Du 29.1 48 S 855 21.2 11-17-55 J Schools. Colbert County Bud Copeland. D 146.2 15 Mh 863 104.7 11-16-55 J do. do. 863 104.7 11-16-55 J 6 Mh 873 104.7 11-16-55 J 863 104.7 11-16-55 J 863 104.7 11-16-55 J	٥	a	Д		Z	Z	D	Д	D	D	D	D	D	D	D	D	N D	D	S D	D	D	D	S D	Q	Ω	D	Q	D
Mary Bell Elliott Day 29.1 48 S 855 21.2 11 Cabbert County Bud Copeland D 148.2 15 Mh 863 104.7 11 Schools do D 190 13 863 104.7 11 Ado John Martin D 22.5 6 Mh 872 300 Mh 865 14.5 11 W. M. Thompson J. Byron Cotton D 22.5 6 Mh 865 14.5 11 John Martin D 34.0 10 Mh 864 17.5 11 Colbert Heights Earl Crowden D 237 8 Mt 477 143 Oscar Mereldth D 41.0 6 Mh 851 17.0 . W. B. Butler D 43.0 6 Mh 851 17.0 . W. B. Butler D 43.0 6 Mh 855 26.9 11 C. A. Ingram D 43.0 6 Mh 855 26.9 11 W. B. Butler D 43.0 6 Mh 855 26.9 11 C. A. Ingram D 43.0 6 Mh 855 26.9 11 C. A. Ingram D 43.0 6 Mh 855 26.9 10 W. B. Butler D 72.9 6 Mh 855 26.9 10 C. A. Ingram D 72.0 6 Mh 855 26.0 10 C. A. Ingram D 72.0 6 Mh 855 26.0 10 C. A. Ingram D 74.0 6 Mg 852 27 10 C. A. Ingram D 74.0 6 Mg 852 27 10 C. A. Ingram D 75.0 6 Mg 87 20 <td< td=""><td>></td><td>Ξ</td><td>شر</td><td></td><td>:</td><td>M</td><td>M</td><td>H</td><td>M</td><td>M</td><td>M</td><td>M</td><td>M</td><td>M</td><td>دم</td><td>M</td><td>M</td><td>M</td><td>C</td><td>M</td><td>M</td><td>×</td><td>ش</td><td>ص</td><td>O</td><td>M</td><td>تر</td><td>دسا</td></td<>	>	Ξ	شر		:	M	M	H	M	M	M	M	M	M	دم	M	M	M	C	M	M	×	ش	ص	O	M	تر	دسا
Mary Bell Elliott Du 29,1 48 S 855 Schools. Schools. D 148.2 15 Mh 863 15 Schools. Go do. do. D 148.2 15 Mh 865 do. do. do. do. D 148.2 15 Mh 865 do. do. do. do. do. do. do. 863 do. 865 do. 4865 do. do.	27 71	99-71-11	11-16-55	:	1955	11-16-55	11-23-55	1954	9-20-55	11-16-55		op	11-23-55	op	op	op	9-28-55		op	do	do	9-29-55	10-13-55	7-27-55	10-12-55	op	1949	1
Mary Bell Elliott Du 29.1 48 S Colbert County Bud Copeland D 148.2 15 Mh do do D 190 13 do do D 190 13 do do do D 134.0 6 Mh W. M. Thompson J. Byron Cotton D 22.5 6 Mh John Martin D 34.0 6 Mh Colbert Heights Earl Crowden D 237 8 Mh Oscar Meredith Earl Crowden D 43.0 6 Mh W. B. Butler D 43.0 6 Mh W. B. Hooper D 43.0 6 Mh John	91.9	21.2	104.7	:	300		17.5	143	31.8	46.5	17.0	25.9	26.9	46.8	81.2	33.5		103.8	:	47.6	0.99		70		20	52.7	40	36.0
Mary Bell Elliott Du 29.1 48 Colbert County Bud Copeland D 148.2 15 Schools do D 190 13 do J. Byron Cotton D 624 6 W. M. Thompson J. Byron Cotton D 22.5 6 John Martin D 23.7 8 Colbert Heights Earl Crowden D 23.7 8 Oscar Meredith D 43.0 6 6 W. B. Butler D 43.0 6 6 W. E. Hooper D 43.0 6 6 Kent Patton Bud Copeland D 120.3 6 Clovis Isbell O McCuire D 90.6 6 John Johnson D	α α	000	863	863	872	865	864	477	543	857	851	849	845	852	856	856	516	554	562	558	514	525	520	511	521	492	483	517
Mary Bell Elliott Du 29.1 Colbert County Bud Copeland D 148.2 Schools. do 190 148.2 do J. Byron Cotton D 624 W. M. Thompson J. Byron Cotton D 22.5 John Martin D 34.0 Colbert Heights Earl Crowden D 43.0 W. B. Butler D 43.0 W. B. Butler D 43.4 W. E. Hooper D 43.4 W. E. Hooper D 43.4 W. E. Hooper D 98.9 C. A. Ingram D 74.0 W. E. Hooper D 74.0 C. A. Ingram D 74.0 C. A. Ingram D 98.9 John Johnson D 74.0 Clovis Isbell D 0 do D 90.6 Gordon Pruitt D 90.6 Gordon Pruitt Bud Copeland D	U,	2	Wh	:	Mh	Mh	Mh	Mt	Mt	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mg	Mg	Mg	Mg	Mg	Mg	Mt	Mt	Mt	Mt	Mt	Mt
Mary Bell Elliott Du Colbert County Bud Copeland D Schools do D do J. Byron Cotton D W. M. Thompson J. Byron Cotton D W. M. Thompson D D John Martin D D Colbert Heights Earl Crowden D Colbert Heights D D W. B. Butler D D W. B. Butler D D W. B. Butler D D C. A. Ingram D D W. B. Butler D D W. B. Butler D D W. B. Butler D D C. A. Ingram D D H. C. Armstead O McGuire D John Johnson D D D John Johnson D D D Gordon Pruitt Co. D D Gordon Pruitt B D D Julia Crittenden B B D	48	0 L	15	13	9	9	10	∞	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Mary Bell Elliott	1 06			190	624			237	41.0	49.0	43.0		34.6			74.0							204	92	96	83.8	75	127.0
Mary Bell Elliott	Ē	, t	Q	Q	Q	Q	D	Q	Q	D	D	D	Q	Q	Q	Q	Д	Q	Q	Q	D	D	Q	Д	Ω	Q	Q	Q
Mary Bell Elliott. Colbert County Schools. do W. M. Thompson. John Martin Colbert Heights W. B. Butler W. E. Hooper C. A. Ingram W. E. Hooper L. Fennel John Johnson J. Fennel John Johnson J. Fennel John Johnson J. Fennel J. Hunter Howard Robbins Howard Robbins A. L. Hunter L. T. Pride				. do .	Byron		:	Crowden.							Copeland.								Rhoden Drilling Co.					
		•	Colbert County Schools.	op	. do		•	:	:	Berry Clark	•	B.	प्तं	A.	Kent Patton	ပ	Clovis Isbell	John Johnson	Fennel .	:		do	Gordon Pruitt	:	:	Roy Harris	ŗ.	Ŧ.
	M-117	M 110	M-118	M-119	M-120	M-121	M-122	*M-123	M-124	M-125	M-126	M-127	M-128	M-129	M-130	M-131	M-132	M-133	M-134	M-135	M-136	M-137	M-138	M-139	M-140	M-141	M-142	1

Discharge 20 gpm Supplies 2 families and 40 head of stock. Casing: 6-in. to 8 ft.; none below. Drilled in 1941. Casing: Supplies 1 family. Casing: 6-in. to 47 ft.; none below. Reported yield, 1.5 gpm on 8-8-56. Drilled in 1955. Sulfurous. 6-in. to 18 ft.; none on upplies 5 families. Casing: 6-in. to 135 ft.; none below. Cavity at 25 to 30 ft. Electric Supplies 4 families and 50 head of stock. Casi 6-in. to 75 ft.; none below. Cavity at 75 ft. Drilled in 1938. gbm Casing: Reported yield, 12 Supplies 13 people. Drilled in 1948. 10g in files of U.S. Geol. Survey. Drilled in 1942 Drilled in 1948 6-in. Drilled in 1927 station. Known as "Dry Creek Spring." on 8-3-29 (Johnston, 1933). Remarks Casing: Supplies 1 family and gas to 33 ft.; none below. Supplies 1 family. Casing below. Drilled in 1954. Supplies 5 families. Supplies 13 people. 8-25-55. Supplies 2 families Supplies 5 people. Supplies 1 family. Supplies 3 people. (mqq) CaCO3 Field determinations 246 212 182 314 140 274 196 208 Hardness as (CI) ~ 6 20 15 2 က က 0 20 Chloride (.E) 62 62 63 09 61 09 61 61 61 62 Temperature О \Box Q Q Ц Q Q Ω Q Q О Ω Ω O S Ω О Use of water Ö \mathbf{Z} ĭ Ξ \mathbb{Z} 1 \vdash Ь \vdash **-**Method of lift 3-29 3 - 298-56 3~55 2-55 3-55 7-26-56 8-25-55 7-26-56 8-25-55 7-26-56 urement 1938 op . . qo qo qo Date of measlevel 11-8-40 11-11-Water surface(feet) 57.5 36.9 41.6 6 6 $^{\circ}$ below land 28. 65. 20. 148. 128. 38. 45 61. 22 To (+) 9vodA surface (feet) 464 480 437 472 470 474 470 430 430 450 592 999 549 585 484 532 Altitude of land formation Mt Water-bearing (inches) 9 9 9 9 9 9 9 9 9 9 9 9 9 9 Diameter of well 106.0 70.9 (1991) 6 4. 2 5 243. 265 200 110 112 585 150 Depth of well 90 98. 162 68. 47 96 Type Q Д Q Д Ω Q Q Ω О О Д Д Ω Ω Q S do Curtis Spangler Charles Richey Crosswhite and Rhoden Drilling Co. Driller John Hawk op Thelma Hester.... Clements Maggie Willingham Homer Vandigrift Thompson Velma Mitchell. George Foster Howater Wanner Young Sally Goodloe Owner Davis. Olive. Pride, Pride School Pat Harris H. ian <u>--</u> $\ddot{\Xi}$ Ъ. <u>ا</u> Ë 回 Jul Ħ. ij > H. \geq Well or spring no. N-10 N-12 $^{\circ}$ $^{\circ}$ 4 KO 9 E- ∞ 6 N-11 N-13 N-14 N-15 N-16 N-17 ż ż ż ż ż ż ż ż

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	Supplies 1 family and cafe. Drilled in 1940.	Supplies 1 family. Casing: 6-in. to 10 ft.; none below.	Supplies 1 family. Drilled in 1948. Water muddy following rain.	Supplies 1 family. Reported yield, 18 gpm on 7-20-56. Drilled in 1951.	Supplies 3 families and store. Drilled in 1946.	Supplies 1 family. Low during dry seasons.	Supplies 1 family. Casing: 6-in. to 12 ft.; none below. Suffurous. Electric log in files of U.S. Geol. Survey.	Supplies 6 people. Casing: 6-in. to 10 ft.; none below. Iron taste.	Supply inadequate. Electric log in files of U.S. Geol. Survey.	Supplies 2 families. Dry during dry season. Bedrock at 10 ft.	Supplies 13 people.	Supplies 5 people. Drilled in 1941.	Supplies 4 people. Drilled in 1951.	Supplies 25 people. Drilled in 1953.	Supplies 3 people. Drilled in 1955. Sulfurous.	Supplies 5 people. Drilled in 1950.	Supplies 1 family. Drilled in 1946.	Supplies 2 families. Casing: 6-in. to 42 ft.; none below. Drilled in 1947. Sulfurous.	Supplies 2 families. Casing: 6-in. to 15 ft.; none below. Reported yield, 8 gpm on 7-31-56.	Supplies 1 family.	Supplies 1 family. Casing: 6-in. to 24 ft.; none below.	Supplies 1 family. Supply inadequate.		Supplies 1 family. Casing: 36-in. to 29 ft.; none below. Water has alum and iron taste.
	156	184	202	200	:	:	214	26	:	42	216	166	168	132	198	218	196	284	28		164	24	:	104
	27	23	23	9	:	:	22	0	:	6	2	28	6	2	2	9	2	13	67	•	23	36	•	36
	62	62	61	61	:	:	61	62	:	61	:	:	:	:	:	:	61	62	•	:	:	:	•	•
	D	D	D	Q	D	Q	Q	D	Z	D	D	Q	D	D	D	D	Q	Q	D	D	Q	D	Z	Q
	r	r	ſ	Ŀ	ſ	M	×	M	:	×	r	L	ſ	ſ	ſ	ſ	M	M	r	r	٦	r		Σ
	7-20-56	op	· · op · ·	op	do	7-31-56	8- 7-56	op	7-31-56	op	11- 3-55	op	op	11-8-55	do	op	do	op	7-31-56	op	8- 1-56	op	8- 3-56	do
	48.9	54.4	38.9	76.6	06	11.1	64.2	27.7	109.5	24.3	:	:	•	:	20	:	68.2	61.3	88.0	23.8	150	19.9	66.7	17.2
	435	464	468	525	505	627	517	765	805	785	482	481	480	479	466	539	456	516	836	778	793	770	726	724
	Mt	Mt	Mt	Mt	Mt	ß	Mg	Mh	Mh	Ø	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mh	Ø	Mg	23	Mg	w
	9	9	9	9	9	:	9	9	9	:	9	9	9	9	9	9	9	9	9	36	9	36	9	36
,	119.0	116.9	76.7	100.0	130	15.8	164.0	72.6	360	30.1	:	103	82	29	150	151	9.68	127.3	148.6	29.9	176	29.9	377	29.0
	Q	Q	Q	Q	Ω	Du	Q	Д	Q	Da	Q	Q	Q	Q	Q	Q	Q	Ω	Q	Du	Q	Da	Q	Da
							Fred Thompson .	Horrace Shikle, Jr.			:	Rhoden Drilling Co.	R. C. Capley	O. McGuire	Bud Copeland	op	Walter McCormick	Curtis Spangler .					Tennessee Valley Authority.	
	Leonard Overton	Ellis Kimbrough	John Johnson	Mrs. Claude Pam- bers.	L. C. Richardson	Lewis Hollard	W. Smallwood	Horrace Shikle	T. L. Richardson	E. Rickard	H. M. McGee	M. G. McKeenum	Floyd Sherrod	Jim Archer	Ralph Garner	K. E. Summerall	Neely Willingham	W. G. Goins	William Howard	J. N. Hester	Louis Smith	J. C. Lindsey	Joe Lonsdale	C. Wheeler
	N-18	N-19	N-20	N-21	N-22	N-23	N-24	N-25	N-26	N-27	N-28	N-29	N-30	N-31	N-32	N-33	N-34	N-35	N-36	N-37	N-38	N-39	N-40	N-41

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Percy Price. Earl Crowden. D 101,5 6 Mt 474 25,7 7-26-56 1 D 61 27 133 J. E. Hovater Crowden. D 200,0 6 Mt 442 12,7 7-26-56 1 D 62 2 35 John Nelson D 243 6 Mt 445 20 7-26-56 M D 64 43 1,34 J. McWilliams D 43,5 6 Mt 461 22,2 do		families.	5 families and store.	9 families and store. Casing: 6-in. none below.	16	Supplies 1 family.	2 families and dairy. Casing: 6-in. none below.	6-in. to 20 ft.		2	Supplies 1 family.			6-in. to 38 ft.; none below.	6-in. to 20 ft.	1 family and dairy. Sulfurous.	to 20 ft.; none below. Drilled in 1955.	S	Sulfurous.	2 families.	1 family. Sulfurous	1 family. Casing: 5-in. to 105 ft.		6-in, to 36 ft.; none below.		Supplies 1 family. Supply inadequate.
Percy Price. Earl Crowden. D 101.5 6 Mt 474 25.7 7-26-56 J D 65 2 2 2 2 2 2 2 2 2		132	694	358	1,348		200	246	210	456	•	70			:	130	48		170	∞	41	192	188			
Percy Price. Earl Crowden. D 101.5 6 Mt 474 22.7 7-26-56 J D 6 6 Mt 474 22.7 7-26-56 J D 6 6 Mt 422 12.7 7-24-56 J D 6 6 Mt 442 12.7 7-24-56 J D 6 6 Mt 445 32.0 7-26-56 J D 6 6 Mt 446 9.6 7-27-56 Mt D		27	9	83	43	•	-2	15	∞	91		34	:	: .	:	120	21	:	0	20	9	9	10			
Percy Price, Earl Crowden, D 101,5 6 Mt 474 25.7 7.26-56 J J. E. Hownter Counter Morris D 200,0 6 Mt 442 12.7 7.24-56 J John Nedson, D 237 6 Mt 442 12.7 7.24-56 J John Nedson, D 237 6 Mt 443 25.7 7.26-56 J J. McWillams Counter Morris D 43.5 6 Mt 467 12.7 7.26-56 M J. McWillams Lavender Drill D 41.9 6 Mt 467 12.2 do M J. McWillams R. C. Capley D 158.5 6 Mt 508 42.1 9.10-56 M J. C. Sizemore D 158.5 6 Mt 508 42.1 9.10-56 M J. C. Sizemore D 158.5 6 Mt 563 13.2 do M J. C. Sizemore D 14.6 8 8 8 8 8 8 8 J. C. Sizemore D 14.6 8 8 8 8 8 8 8 J. C. Sizemore D 14.6 8 8 8 8 8 8 J. C. Sizemore D 14.6 8 8 8 8 8 8 J. C. Sizemore D 14.6 8 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 J. C. Sizemore D 14.7 8 8 8 8 J. C. Capley D 14.7 8 8 8 8 J. C. Capley D 14.7 8 8 8 J. C. Capley D 14.7 8 8 J. C. Capley D 1		61	62	63	64		63	63	62	63	:	63	:		:	63	61	:	63	62	61	62	62		•	
Petrcy Price Dari Crowden D 101.5 6 Mt 474 25.7 7-26-56 J J L. Hovater D 200.0 6 Mt 442 12.7 7-24-56 J J L. Hovater D 200.0 6 Mt 442 25.7 7-26-56 J J J J J J J J J		D	D	D	D	Q	ΩΩ	Q	Q	D	D	D	Z	Z	D	N D	D	Q	Z	D	Q	N D	D	Q	N D	Ω
Perry Price Earl Crowden. D 101.5 6 Mt 474 25.7 7 7 7 7 7 7 7 7 7		L.	L.	٦	M	M	J.	ŗ	M	M	M	M			[-	E	M	M	L	L .	J	O	L.	[-	r.	M
J. E. Hovater D 101.5 6 Mt 474 2 J. E. Hovater D 200.0 6 Mt 442 3 J. E. Hovater D 200.0 6 Mt 453 2 John Nelson D 237 6 Mt 459 6 J. McWilliams D 43.5 6 Mt 461 2 J. McWilliams D 43.5 6 Mt 461 3 J. Maylorer Storment D 41.9 6 Mt 461 3 J. B. Minor D 41.9 6 Mt 465 4 465 4 465 4 466 4 466 4 466 <td></td> <td>-26</td> <td>7-24-56</td> <td>-26</td> <td>8-25-55</td> <td></td> <td>do .</td> <td>7-26-56</td> <td>8-23-56</td> <td></td> <td>9-10-56</td> <td></td> <td>8-27-56</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>do .</td> <td>9-14-56</td> <td>do .</td> <td>9-17-56</td> <td>9-14-56</td> <td>9-17-56</td>		-26	7-24-56	-26	8-25-55		do .	7-26-56	8-23-56		9-10-56		8-27-56								do .	9-14-56	do .	9-17-56	9-14-56	9-17-56
J. E. Hovater D 101.5 6 Mt J. E. Hovater D 200.0 6 Mt George Morris D 237 6 Mt John Nelson D 89.1 6 Mt J. McWillams D 43.0 6 Mt J. McWillams D 43.0 6 Mt Lucy Kimbrough Lavender Drill D 41.9 6 Mt J. Duey Romans R. C. Capley D 158.5 6 Mt J. B. Minor D 4.6 36 Mt J. C. Sizemore Dual 4.6 36 Mt J. C. Sizemore W. Hawk D 24.0 Mt Otis F. Pounders W. Hawk D 24.0 Mt		25.7		20	83.4	9.6			39.8						51.	•				53.6	39.8	29	100	94	57.3	45.2
J. E. Hovater Barl Crowden D 101.5 6 J. E. Hovater D 200.0 6 George Morris D 237 6 John Nelson D 43.0 6 J. McWilliams D 43.0 6 J. McWilliams D 43.5 6 J. WcWilliams D 43.5 6 J. Lucy Kimbrough Lavender Drill D 43.5 6 J. C. Sizemore D 158.5 6 J. B. Minor D 16.5 6 6 J. C. Sizemore D 16.5 6 6 J. C. Sizemore D 16.5 6 6 J. Glenn Hester D 240 6 Otis F. Pounders D 240 6 J. J. Waldrough D 39.5 6 J. A. Wallace R. C. Capley D 39.5 6 J. L. Waldrop B C. Capley D 39.2 6 J. L. Waldrop B C. Capley D 39.2 6 <t< td=""><td>-phones thank of the first</td><td>474</td><td>442</td><td>453</td><td>459</td><td>446</td><td>461</td><td>467</td><td>523</td><td>554</td><td>208</td><td>895</td><td>530</td><td>565</td><td>563</td><td>515</td><td>517</td><td>525</td><td>505</td><td>534</td><td>508</td><td>503</td><td>530</td><td>518</td><td>481</td><td>473</td></t<>	-phones thank of the first	474	442	453	459	446	461	467	523	554	208	895	530	565	563	515	517	525	505	534	508	503	530	518	481	473
J. E. Hovater D 101.5 6 J. E. Hovater D 200.0 6 George Morris D 237 6 John Nelson D 237 6 J. McWilliams D 43.0 6 J. McWilliams D 43.5 6 J. McWilliams D 43.5 6 J. McYlliams D 43.5 6 J. McYlliams D 43.5 6 J. Lucy Kimbrough D 43.5 6 J. C. Sizemore Du 4.6 36 J. C. Sizemore Du 4.6 36 J. Glenn Hester Du 4.6 36 J. Glenn Hester Du 4.6 36 J. Glenn Hester Du 28.0 6 J. Glenn Hester Du 28.8 6 J. Glenn Hester Du 28.0 6 J. L. Waldrup Du 28.0 6 J. L. Waldrup		Mt	Mt	Mt	Ms	Mt	Mt	Mt	Mt	Ms	Mt	Mh	Ω	Mt	Mt	Mt	Mt	Ω	Mg	Mbe	Mbe	Mt	Mt	Mt	Mt	Mt
J. E. Hovater D J. E. Hovater D George Morris D John Nelson D J. McWilliams D J. McWilliams D J. WcWilliams D J. Lucy Kimbrough R. C. Capley J. C. Sizemore D J. C. Sizemore D J. C. Sizemore D J. C. Sizemore D J. Glenn Hester D J. Glenn Hester D J. Glenn Hester D J. Lisbeth Foster D J. Lisbeth Foster D J. L. Waldrup D J. A. Wallace R. C. Capley J. A. Wallace R. C. Capley Barl Waldrop D J. Maylield D J. Maylield D <		9	9	9	9	9	9	9	9	36	9	9	36	9	9	9	9	36	9			2	9	9	9	9
Percy Price Earl Crowden J. E. Hovater. George Morris. John Nelson. J. McWilliams. do. Lucy Kimbrough Lavender Drilling Co. Duey Romans. R. C. Capley. J. C. Sizemore J. C. Sizemore V. Hawk. J. Glenn Hester. Otis F. Pounders. C. D. Kimbrough R. C. Capley Lisbeth Foster J. Glenn Hester. Otis F. Pounders. C. D. Kimbrough R. C. Capley Selson Jones J. A. Waldrup J. A. Waldrop Shangler. J. Mayfield J. Mayfield McJohnson			200.0	237		43.0		41.9					4.6	86.0	300	240				93.5	96.0	105	230	184		62.1
Percy Price Earl Crowden J. E. Hovater George Morris. John Nelson J. McWilliams Lavender Drilling Co. Duey Romans R. C. Capley J. C. Sizemore W. Hawk J. Glenn Hester W. Hawk J. Glenn Hester W. Hawk J. Glenn J. C. Sizemore W. Hawk J. Glenn Hester W. Hawk J. C. Bizemore W. Hawk J. Glenn J. A. Waldrup R. C. Capley Edison Jones R. C. Capley J. A. Waldrop R. C. Capley Edison Jones Curtis Spangler J. Mayfield Curtis Spangler J. Mayfield Curtis Spangler		Q	Q	Q	Q	Q	Q	Q	Q	Du	Q	Da	Da	Q	Q	Q	Q	Du	Q	Q	Q	Q	Q	Q	Q	D
Percy Price J. E. Hovater George Morris J. McWilliams J. McWilliams Lucy Kimbrough J. C. Sizemore J. Glenn Hester J. Glenn Hester J. Glenn Hester J. Glenn Jones E. J. Hester J. L. Waldrup J. A. Wallace J. A. Wallace J. A. Waldrop J. A. Waldrop J. A. Waldrop J. A. Waldrop Lisch Waldrop J. Mayfield		Crowden				•			. C. Capley											•	ರ			Spangler		
0-20 0-21 0-22 0-23 0-24 0-25 0-36 0-37 0-37 0-36 0-37 0-37 0-37 0-37 0-38 0-39 0-39 0-39 0-39 0-39 0-39 0-39 0-37 0-37 0-37 0-37 0-37 0-37 0-37 0-37		Percy Price	回	George Morris	John Nelson		···· op · · · ·		•		B.	ပ်		•	Glenn Hester		D. Kimbrough.	Z.	٠ -	ŗ.	Α.	Edison Jones	Earl Waldrop	•	Mayfield	0 0
		0-20	0-21	0-22	0-23	0-24	0-25	0-26	0-27	0-28	0-29	0-30	0-31	0-32	0-33	0-34	0-35	0-36	0-37							

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	Remarks	Supplies 1 family and store.		Supplies 1 family.	Casing: 7-in. to 18 ft.; none below. Sulfurous.	Supplies 1 family. Sulfurous.	Casing: 6-in. to 32 ft.; none below.	Sulfurous.	Do.	Supplies 1 family. Drilled in 1956.	Casing: 6-in. to 20 ft.; none below. Drilled in 1953. Sulfurous.	Supplies 1 family. Drilled in 1926.		Casing: 6-in, to 36 ft.; none below.	Supply inadequate.	Supplies 1 family. Drilled in 1896.	Supplies 2 families. Drilled in 1952.	Casing: 36-in. to 21 ft.; none below.			Supplies 1 family.	Casing: 6-in. to 30 ft.; none below. Drilled in 1944.	
determinations	Hardness as CaCO ₃ (ppm)	350	•		44	10	09	:	10	:	320	•		112	276	16	76	55	0	•	304	:	
determ	Chloride (Cl)	13	•		155	9	9	•	35	•	13	•		10	20	9	20	4	:	•	42	:	
Field	Temperature (4°)	62	0		63	63	63	•	64	:	63	0	•	09	63	62	63	64		:	64	•	
	Use of water	Q	Z	Q	Q	Q	Z	Z	Q	Q	N D	Q	Z	Q	Q	Q	Q	Z	z	Z	D	z	
	Method of lift	ſ		ص	Z	Z	Z	•	Z	Z	ب	Z	•	r	م	Z	M	Z	Z	M	ы	•	
level	Date of meas- urement	9-17-56	op	9- 6-56	op	9- 4-56	op	op	9- 2-26	9- 9-6	9-17-56	do	9-18-56	do	9-17-56	9-18-56	op	9- 2-26	op	9- 6-56	9-18-56	9- 2-26	
Water	Above (+) or below land surfacet)	•	25.0	11.9	28.1	29.0	23.1	83.1	42.5	26.9	34.2	42.1	15.3	95.0	50.1	15.1	20.9	8.7	46.1	59.8	80.3	73.7	
	Altitude of land (1991) eostrus	520	518	487	467	554	582	582	528	474	542	482	509	539	510	517	515	502	510	523	575	581	
	Water-bearing formation	Ms	Ms	Ø	Ms	Mbe	Mbe	Mt	Mbe	Mg	Mt	Mt	Ms	Mt	Ms	Mbe	Mg	Ø	Mg	Mt	Mg	Mg	
II	ew to retemaid (and senting)	9	9	35	L-	9	9	9	9	Ľ-	9	9	9	9	9	9	9	36	9	9	9	9	
	Depth of well (feet)	187	63.5	27.0	46.7	52.0	32, 5	91.0	57.0	62.8	159	60.2	36.6	174	98.9	49.7	96.5	21.0	85.2	128.5	280	119.2	
	Type	Q	Д	Du	Q	Q	Д	Q	Q	Д	Д	Q	Q	Q	Q	D	Ω	Du	Ω	Д	Q	Q	
	Driller				Hawk Drilling Co.					•	Earl Crowden			O. McGuire			O. McGuire				G. McGuire		
	Owner	J. B. Melton	···· op · · · ·	Joe Rutland	J. C. Pounders	Ethel Hargett	F. D. Huston		F. A. Rikard	F. A. Landers	L. T. Hester	M. Choat		M. Choat	W. R. McGoff	J. W. Choat	Bill Choat	Williams	H. R. Bowsman	A. L. Kimbrough	V. T. Payten	J. Williams	-
•ou	Well or spring	P- 8	P- 9	P-10	P-11	P-12	P-13	P-14	D-15	P-16	P-17	P-18	P-19	P-20	P -21	P-22	P-23	P-24	P-25	P-26	P-27	P-28	

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Known as "Denton Spring." Discharge estimated 1 gpm on 9-27-55.	Known as "Williams Spring." Discharge estimated 1 gpm on 9-27-55.	Supplies 1 family. Drülled in 1927. Sulfurous.	Supplies 2 families. Drilled in 1951.	Supplies 1 family. Casing: 6-in. to 160 ft.; none below.	Supply inadequate.	Casing: 6-in. to 36 ft.; none below.	Supplies 1 family. Drilled in 1937. Sulfurous.	Supplies 1 family.	Supplies 1 family. Drilled in 1923. Sulfurous.	Supplies 1 family. Drilled in 1956. Sulfurous.	Has supplied as much as 25 families.	Supplies 1 family.	Supply inadequate.	Do.	Electric log in files of U.S. Geol. Survey.	Supply inadequate.	Supplies 1 family. Casing: 36-in. to 35 ft.; none below.	Supplies 1 family.	Supplies 1 family. Drilled in 1954. Sulfurous.	Supplies 1 family.	Supplies 3 families. Drilled in 1941.	Supplies 1 family. Drilled in 1952.	Supplies 1 family. Casing: 6-in. to 260 ft.; none below. Drilled in 1955.	Well not cased.		Supplies 3 families in summer.
344	444	150	392	108		196	404	:	112	128	160	:	•	:	121	42	•	:	28	:	34	40	32			52
7	2	11	13	14	•	9	34	:	2	9	14			:	7	0	•	:	14		13	0	10			9
09	65	09	63	61		63	64	:	64	64	61	•	:	:	63	64	:	:	59	:	65	63	29	:		63
Q	Q	D	D	Q	D	D	Q	Q	Q	Q	Q	Q	D	Z	Q	D	D	Q	Q	Q	D	Q	Q	z	Z	Д
[±4	<u> </u>	Þ	b	L L	M	Ö	M	M	M	L,	٦	r ·	×	O	M	ь	M	r	\vdash	M	Ь	P	F	:	:	Z
9-27-55	op	10- 8-56	op	10- 4-56	op	10- 5-56	10- 4-56	do	10- 8-56	op	10- 5-56	10- 9-56	op	10- 4-56	do	do	10-10-56	10- 2-56	op	10- 9-56	10- 2-56	op	op	10-10-56	10- 2-56	· · op · ·
 •	:	100	14.4	140	19.0	20	72.5	35.5	28.8	11.7	47	15.6	9.5	32	37.9	28.0	26.4	30.2	220	31.1	75.2	85.9	242	44.4	61.3	26.0
580	620	537	494	206	202	517	499	270	490	467	445	298	099	557	462	504	617	622	627	524	638	619	638	631	582	517
Mc	Mc	Mg	Mg	Kt	Kt	Mt	Mt	Mt	Mg	Mg	Mt	W	ß	Mbe	Mt	Mt	Kt	Kt	Mg	Ø	Kt	Kt	Mt	Kt	Kt	Kt
:	:	9	9	9	36	9	9	9	9	9	9	48	36	9	9	9	36	36	9	36	9	9	9	36	35	30
:		140	109	160	21.8	120	129.2	68.0	48.5	113.0	87	25.3	12.5	84	148.0	42.6	35.3	33.6	320	37.1	200	105.6	282	47.8	66.1	34.5
W	w	Q	Д	Q	Dū	Q	Q	Q	Q	Q	Q	Dū	Dū	Q	Q	О	Dα	Du	Q	Du	Q	Д	Д	Da	Dn	<u>g</u>
			O. McGuire	· · · · op · · · ·		Fred Thompson .				R. C. Capley	Fred Thompson .	:							O. McGuire			O. McGuire	Bud Copeland			
Denton	J. Williams	S. E. Neill	W. D. Cornelius		J. A. King	D. B. Davis	W. A. Cope	E. D. Hooper	C. N. Hayes	W. M. Tamp	Zodus Vinson	Ed Tiers	A. T. Bolton	A. P. Malone	Donald Watkins	John S. Harris	O. L. Donald	W. T. Denton	M. Woodis	Raymond Durham	W. A. Reed	C. O. Bishop	George Waldrop			C. D. Sparks
-29	-30	-	2	چ- د	4	ا ئ	9 -	- 7	80 1	6 -	-10	-11	-12	-13	-14	-15	-16	2-17	-18	9-19	⊋-20	21	-22	2-23	-24	-25

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	Casing: 6-in. to 55 ft.; none below.	Supplies 6 people. Cement tile to 32 feet.	Supplies 1 family.	Iron taste.	Dry during fall.	Known as "Polk Thorn Spring." Discharge estimated 2 gpm on 9-20-55.	Supply inadequate.	Well dug on site of old spring.	Water is chlorinated and supplies 7 families and rest rooms at pumping station.	Casing: 6-in. to 17 ft.; none below.	Supplies 1 family. Casing: 6-in. to 20 ft.; none below. Drilled in 1956.	Drilled in 1930.	Supplies 1 family. Bedrock at 17 feet.		Known as "Flagg Spring." Supplies 10 people. Discharge estimated 5 gpm on 9-20-55.	Supplies 1 family. Casing: 36-in. to 25 ft.; none below.		Bedrock at 20 feet.	Supplies 1 family.	Supply inadequate.		,	Bedrock at 12 feet.	Supplies 25 to 80 students.		Dry during fall and winter.	Casing: 6-in. to 22 ft.; none below.	
	188	346	326	314	:	:	352	18		4	138	:	42		∞	:	:	•	112					99		•	88	•
	13	13	85	30	•		49	2	:	20	13	•	20	:	ಬ		:		14		•	:	•		•	*	14	•
	73	63	73	62		09	62	22		63	64	:	62	:	61	:	•		61	:	:		:	62	•	0	62	•
	Q	Q	Q	Z	Q	Z	Q	Q	d	Q	Д	Z	А	Z	Ω	Д	Z	Q	Q	Ω	Q	z	Q	Д	z	Q	Q	Q
	<u>ب</u>	×			×	<u>F</u>	Z	Ö	L	×	M	Д	Д	:	14	M	:	Д-	-	×	4	:	×	٦	•	×	M	M
	:	9-29-55	do	do	11-28-56	9-20-55	7-30-56	8-23-56	do	8-28-56	7-30-56	8-24-56	8-28-56	do	9-20-55	11-28-56	11-26-56	11-27-56	11-28-56	do	11-19-56	11-26-56	11-27-56	do	11-28-56	11-27-56	11-28-56	op
ga	:	26.2	30.9	49.7	13.6		14.7	6.	09	81.3	82.0	165.8	13	84.3	:	21.7	122.1	13.0	09	19.9	12.0	11.7	26.7	0 0	10.4	19.5	12.7	14.9
	795	620	635	635	654	089	530	817	269	780	723	922	092	841	092	784	865	764	712	098	703	713	749	785	702	703	645	636
	Mb	Mp	Mp	Mp	cΩ	Mh	Ø	Mh	Mh	Mh	Mg	Mg	Mh	Mh	Mh	Ø	Mh	Mh	Mh	Kt	Kt	Ω	Mb	Mh	Ø	Ω	Mh	Ø
	9	27	36	9	32	•	36	36	9	9	9	9	34	9	:	36	9	36	9	32	36	34	48	9	36	34	9	36
	141	32.7	32.3	62.7	16.2	•	18.9	12.4	100	120.5	125.0	300	18	129.0	:	24.3	154.5	19.8	120	30.7	14.0	19.0	33.4	20	15.2	22.9	84.5	20.0
	Q	₫	DG	Q	Ω	Ø	Ω	Du	Q	Д	Q	Ω	Da	Q	Ø	Du	Ω	Du	Q	Da	Da	Du	Da	Q	Du	Dn	Ω	Dn
	Bud Copeland			Estes Hargett					Texas Eastern										O. McGuire								O. McGuire	
	C. E. Thorn	W. E. Kirkendahl	Jim Thorn	do	Joe Pugh	Jim Thorn	T. R. Pounders	Buford Deaton	Texas-Eastern Pumping Station.	Robert L. Stanfield.	W. R. Stringer	Robert L. Stanfield.	W. H. Watson	Turner Pounders	Hester	A. C. Kirchner		J. Hodge	Ancel Dailey	Okey Hester	D. Hendrix		S. D. Hester	Rock Creek School .	G. J. Pounders	Wilber Jones	A. C. Kirchner	J. P. Johnson
	S-6	S - 7	δ. 8	S - 9	S-10	S-11	T- 1	T-2	E-1	T - 4	F- 10	9 -		8 - E		T-10	T-11	T-12	T-13	T-14	T-15	T-16	T-17	T-18	T-19	T-20	T-21	T-22

	Remarks	Supplies 1 family.	Supplies 2 families. Casing: 6-in. to 11 ft.; none below.	Iron taste.		Supply inadequate,	Supplies 1 family. Casing: 6-m. to 8 ft.; none below.	Supply inadequate.	Dry at times.	Do.	Supply inadequate.	Do.		Supplies 1 family.	Casing: 6-in. to 17 ft.; none below.	Supplies 1 family. Drilled in 1955.	Supplies 2 families.	Supplies 1 family. Casing: 6-in. to 14 ft.; none below. Drilled in 1945.	Dry during summer. Supplies 1 family.	Casing: 6-in. to 7 ft.; none below.		Supplies 1 family.	
inations	Hardness as CaCO ₃ (ppm)	•	98	:	80	•	:	:	:	:	121	•	:	20	:	•	22	104	•	78	:	09	
Field determinations	Chloride (Cl)		14	•	14	•	•	:		:	2	•	:	0	•	:	0	12	•	0	:	0	
Field	Temperature (T°)	•	62	:	61	:	•	:	:	:	63	•	•	63	:	•	64	61	•	64	:	62	
	Tet of water	D	Q	Z	Q	D	Q	D	Q	z	D	Q	Z	Q	Q	Q	Q	Q	z	Q	z	Q	
	Method of lift	M	ſ	M	M	M	Z	×	M		٦	M	Д	L)	J.	Д	J	Z	M	Ъ	:	در	
level	Date of meas- urement	11-27-56	11-28-56	11-27-56	op	op	11-26-56	11-19-56	op	op	8- 3-56	do	8- 2-56	op	8- 7-56	8- 1-56	op	op	8- 2-56	8- 7-56	•	8- 2-56	
Water level	Above (+) ovodA below land (feet)	13.0	91.3	50.5	34.5	25.8	29.0	20.3	27.8	29.6	22.3	17.3	45	25.0	28	44.0	22.0	75.0	15.7	20	:	10.9	
	onsi to ebutitla teet) eostrus	649	700	842	949	644	684	702	850	944	785	750	784	784	736	092	752	761	735	738	750	992	
	Water-bearing noisemrot	Mb	Mb	Kt	qW	Ø	Mh	w	Kt	Kt	ß	ß	Ø	Ø	Mh	Mh	ß	Mh	Ø	Mh	Mh	ß	
IIe	Diameter of we (inches)	36	9	9	2	36	9	36	30	30	36	34	9	32	9	9	36	9	36	9	9	36	
	Depth of well (feet)	18.0	169	65.0	58.5	32.1	66.5	22.5	30.5	31.9	28.0	20.6	105	30.0	78	250	25.0	114.2	19.5	09	200	20.0	
	Type	Dn	Q	Q	Q	Da	Q	Du	Da	Da	ñ	Da	Q	P _D	Q	Q	Da	Q	Da	Q	Q	Da	
	Driller		O. McGuire				O. McGuire	•			•				Warren Kent	:		Warren Kent					
	Owner	G. Rickard	R. Johnson	D. Hester	K. Greenhill	L. Taylor	E. Hester	William Henry	Lenny Hester		-Wagnon	Albert Richard	D. Malone	op	P. Davis	P. Garrett	T. Alexander	op	M. Kimbrough	F. Malone	New Bethel School	Gerry Hester	
	1	ж.	`.	я.	편	>	Α.	Wil	Le	:	1	Alb	ŗ.	:	R.	ल	J.	•	R.	٦.	Ne	Ge	

	Supplies 1 to 3 families. Casing: 36-in. to 21 ft.; none below. Supply inadequate.	Supply inadequate.	Supplies 1 family.	Supplies 1 family. Casing: 36-in. to 34 ft.; none below. Supply inadequate.	Supplies 2 families.	Supplies 1 family.	Do.	Do.	Do.	Supplies 1 family. Drilled in 1953.			Supplies 1 family.	Dry during summer.	Casing: 6-in. to 14 ft.; none below. Reported yield, 4 gpm 11-19-56. Drilled in 1955.	Supplies 1 family.	Supplies 3 families.	Supplies 1 family.		Supplies 7 people. Casing: 6-in. to 11 ft.; none below.	Supplies 1 family. Drilled in 1934.	Supplies 1 family.	Casing: 6-in. to 9 ft.; none below. Supply inadequate.	Dry when measured.	Supplies 1 family.	Dry during summer.	Supplies 115 people including school students and 3 families.
	:	•	40	20	12	74	:	748	386	:	:	:	:	:	.:		80	290	158	238	09		•		•	•	20
	•		22	9	6	26	:	2	0	:	:	•	:	•	:	•	10	19	22	33	14	:	•	•	•	•	10
	:	:	63	64	65	64	•	64	63	•	•	:	:	:	:	:	•	29	59	59	61	:		:	•	•	62
	Q	z	Q	Q	Q	Q	Q	Q	Q	Q	z	Z	Q	Q	Q	Q	Q	Q	Z	Q	Q	Q	Q	:	D	D	P1 72
	Z	:	r	M	M	M	M	r	ſ	M	:	:	b	×	F	Д	J	M	M	b	M	M	M	:	M	M	r
	8-2-56	do	do	ob	11-15-55	op	11-19-56	8- 2-56	ob	11-14-56	11-15-56	op	op	ob	11-19-56	11-14-56	11-19-56	4-27-56	op	· · op · ·	11-19-56	ob	op	•	11-15-56	•	11-15-56
	16.6	96.5	9.1	26.2	18,5	15.2	35.1	:	11.6	205.3	13.1	20.7	20	11.0	101	14	100	18.2	19.6	28.0	62.9	30.7	27.1	:	25.4	:	325
-	800	764	744	784	771	758	780	795	785	864	836	692	910	720	723	713	752	708	711	400	748	823	688	917	729	096	086
	Ø	Mg	Ω	Ø	W	W	Ø	Mb	Mb	Mg	Ø	Ø	W	Ø	Mh	Ø	Mb	Mb	Mb	Mb	Mb	Kt	Mh	Kt	Mh	Kt	Mb
	36	9	38	36	54	48	36	9	9	9	36	36	48	36	9	36	9	9	9	9	9	9	9	30	9	34	9
sph-data-revi-	21.2	182.0	28.1	34.0	35.7	18.5	36.5	77	75.0	271.0	17.4	21.6	56	18.7	141	18	190	47.0	34.7	101	96.9	43.7	37.3	60.7	43.7	55.2	425
	B	Q	Q	P	Ã	P	Du	Q	Q	Q	Du	Du	P	Du	Q	Da	Q	D	Q	Q	Q	Q	D	Du	Q	Du	Q
								Warren Kent	op						Warren Kent		Rhoden Drilling Co.			Warren Kent	A. E. Flack		Barrs Drilling Co.	•			
	H. E. Owen	W. T. Morgan	J. C. Tamp	J. L. Reed	Noah Mitchell	J. R. Byrd	Roy Mitchell	Hillard Hester	R. Kimbrough	A. L. Kimbrough			Noah Hester	W. E. Mathews	J. M. McCollister.	G. W. Kilpatrick	J. Lindsey	G. R. Burcham	Luster Kimbrough	op	A. E. Flack	H. H. James	W. Rollins	Lewis Kimbrough	Jeff Winstead	Lily Rickard	Oak Grove School
	U-13	U-14	U-15	U-16	U-17	U-18	U-19	U-20	U-21	U-22	U-23	U-24	U-25	U-26	U-27	U-28	U-29	U-30	U-31	U-32	U-33	U-34	U-35	U-36	U-37	U-38	U-39

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Supplies 1 family.	Do.	Supplies 1 family. Casing: 6-in. to 18 ft.; none below. Drilled in 1947.		Supplies 2 families.	Supplies 1 family. Casing: 6-in. to 10 ft.; none below. Drilled in 1949.	Supplies 1 family.	Supply inadequate.	Supplies 2 families. Casing: 6-in. to 8 ft.; none below. Drilled in 1950. Sulfurous.	Supplies 1 family. Drilled in 1954.	Supplies 2 people. Drilled in 1934. Water reported to have a yellow color.	Supplies 1 family. Casing: 6-in. to 5 ft.; none below. Drilled in 1954.	Supplies 1 family. Drilled in 1954.	Supplies 1 family. Drilled in 1948.	Supplies 1 family. Drilled in 1955.	Supplies house and store. Drilled in 1952.	Drilled in 1942.	Supplies 5 people. Casing: 6-m. to 4 ft.; none below. Drilled in 1946.	Supplies 5 people. Deepened from 42 ft. to 80 ft. in 1952.	Supply inadequate. Drilled in 1953.	Supply inadequate. Drilled in 1944.	Supply inadequate. Sulfurous.	Supplies 4 people. Drilled in 1953.	Supplies 2 people and 3 head of stock.	Strong iron taste.	Supplies 1 family.
22	10	12		304	290	:	364	402	312	20	18	36	18	18	22	•	14	22	24	•	96	36	918	916	402
 2	0	87	:	54	6		30	13	13	9	9	2	9	2	9	:	7	9	13	:	95	16	54	64	40
 61	61	61		61	62	•	61	:	•	62	61	61	63	09	:	:	62	61	62	•	•	29	:	62	63
Q	Q	Q	Z	Q	Q	D	D	Q	Q	Q	D	D	D	Q	Q	Z	D	Q	Q	Q	Q	Q	SD	Q	Q
M	M	×		M	M	Z	Z	٦	5	M	M	M	M	. 🗵	J	:	×	M	M	M	5	M		M	M
11-17-55	op	op	12-19-55	11-14-55	op	11-15-55	op	op	:	11-15-55	· · op · ·	12-19-55	do	op	11-23-55	11-29-55	op	op	op	op	10- 3-55	do	•	10- 3-55	do
54.7	55.2	58.6	58.0	58.9	66.9	14.9	63.3	83	:	51.9	63.8	83.6	31.3	63.8	50.6	52.0	48.1	55.3	41.1	33.8	39.3	13.0	•	20.4	28.4
800	800	802	823	503	514	206	510	539	530	773	764	801	798	814	792	783	770	756	754	763	200	490	516	513	503
Mh	Mh	Mh	Mh	Mg	Mg	S	Mg	Mg	Mg	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	2/3	S	Mg	Mg	Mg
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
64.4	6.99	76.0	63.2	89.8	98. 5	15.3	80.3	166	145	61.0	103.1	130.6	56.2	127.8	97.7	74.2	63.1	80.1	51.4	39.8	79.2	52.4	:	86.5	65.5
Q	Q	Q	Q	Q	Q	Q	Q	Д	Q	Q	Q	Q	Д	Q	Q	Д	Q	Д	Д	Q	Q	Q	Д	Q	Q_
		Edgar Brown			Bud Copeland		O. McGuire	op	op	Earl Crowden	Warren Kent	Chipolet Drilling Co.	op	op	op	Edgar Brown	· · · · op · · · ·			Edgar Brown		Bud Copeland	op		
Harrin Quillon	W. J. Enloe, Jr	C. J. Brown	Carl James	B. Davis	J. R. Jackson	Olive Davis	· · · · · · · · op · · · · ·	Luther Hovater	W. C. Johnson	A. J. McBrayer	R. W. Richardson	R. P. Andrews	Charles E. Davis	D. M. White	J. R. Hester	Etta Isbell	A. L. Bishop	Atta Isbell	R. W. Jones	Mrs. Kelly Elledge.	H. R. Sullivan	C. H. Moore	J. W. Berryhill	op	Henry Barry
V-14	V-15	V-16	V-17	V-18	V-19	V-20	V-21	V-22	V-23	V-24	V-25	V-26	V-27	V-28	V-29	V-30	V-31	V-32	V-33	V-34	V-35	V-36	V-37	V-38	V-39

	Remarks	Electric log in files of U.S. Geol. Survey.	Supplies 7 people. Casing: 8-in. to 8 ft.; none below.	Supply madequate.	Do.	Supplies 1 family.	Supplies 6 people.	Supplies 1 family.	Do.	Water reported to have yellow color. Drulled in 1950.	Supply inadequate.	Supplies 1 family. Casing: 6-in, to 11 ft.; none below. Drilled in 1947. Water reported to have high iron content.		Supplies 1 family.	Supply inadequate.	Drilled in 1947.	Supplies 5 people. Drilled in 1956.	Water has 2 ppm of iron. Drilled in 1955.	Supplies 1 family. Drilled in 1955.		Supplies 8 people. Drilled in 1946.	
Field determinations	Hardness as CaCO3		34	•	154	22	•	•	•	44	•	32	•	06	29	0 0	118	∞	44	•	78	
detern	Chloride (Cl)		φ	•	2	16	•	0	•	13		6	•	20	13	•	9	13	40	•	107	
Field	Temperature (°F)		23		•					57	•	62		28	•	•	61	29	59.5	•	238	
	use of water	z	Ω	Д	ΩΩ	Д	Q	Q	Q	Z	Q	Д	Z	Q	Q	Z	Q	Q	Q	Z	Q	
	Method of lift		Z	M	J.	Ö	Z	r	Z	Z	r	Z		M	L L	•	Z	Z	M		M	
level	Date of meas-	12-11-56	4-18-56	12-19-55	op	4-18-56	4-17-56	op	op	4-18-56	12-19-55	. op .	4-27-56	op	do	4-26-56	op	ob	op	4-19-56	op	
Water level	Above (+) or below land surface(feet)	59.0	18.6	29.0	21	5.1	15.4	16.0	10.9	4.8	22.9	24.6	13.5	11.4	17.4	83.4	25.4	12.2	17.8	21.6	11.6	
	bnsl to ebutitlA teet) eastrus	540	F	768	754	772	922	774	762	763	764	222	731	738	738	778	778	753	742	735	745	
	Water-bearing formation	Mb	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mb	Mh	Mh	Mh	Mh	Mh	Mh	Mh	
II	ow to retent of we (sedont)	9	œ	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	Depth of well (feet)	243.0	66.4	48.9	42	22.0	49.2	41.0	19.2	37.1	44.8	44.1	28.5	22.8	47.6	109.9	71.1	51.7	78	59.7	63.1	
	Lype	Д	Ω	Д	Ω	Д	Д	Ω	Ω	Д	Д	Q	Д	Д	Д	Q	Q	Д	Д	Д	Ω	
	Driller	Bud Copeland	Warren Kent	· · · · op · · · ·						Edgar Brown	Warren Kent	Edgar Brown				Edgar Brown	Warren Kent	op	op		Edgar Brown	
	Owner	Bud Cop land	John II. Cooley	E. H. Isom	M. A. Henderson	A. A. Wright	Mike Johnson	op	Lonnie Vandiver	Olm C. Taylor	E. Hurlburt	J. H. Honey	A. C. McBrayer	Almon B. Davis	L. V. Peters	C. C. Bingham	op	Doyal Head	Myrtle McDaniel	Frank Nix	Mrs. Alta Cooley	
ou.	Well or spring	V 40	V-41	V-42	V-43	V-44	V-45	V-46	V-47	V-48	V-49	V-50	V-51	V-52	V-53	V-54	V-55	95-V	V-57	V-58	V-59	

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Supplies 4 people. Drilled in 1945.	Supplies 1 family.	Supplies 1 family. Drilled in 1955.	Casing: 6-in. to 8 ft.; none below. Reported yield, 2.5 gpm 4-18-56.	Can be drawn dry in 30 minutes.	Casing: 6-in. to 24 ft.; none below. Drilled in 1954.		Casing: 6-in. to 10 ft.; none below.	Supplies 5 people. Casing: 6-in. to 15 ft.; none below.	Supplies 7 people.	Supplies 4 people.	Electric log in files of U.S. Geol. Survey. Observation well.	Supplies 7 people.	Supplies 2 families. Casing: 6-in. to 8 ft.; none below.	Casing: 6-in, to 8 ft.; none below.		Casing: 6-in. to 9 ft.; none below.	Supplies 1 family.	Casing: 6-in. to 16 ft.; none below.		Supplies 2 families. Casing: 5-in. to 6 ft.; none below.	Supplies 2 families.	Supplies 2 families. Casing: 6-m. to 16 ft.; none below.	Supplies 5 families.	Supplies 1 family. Drilled in 1952.
 34	20	•	:		136	:	:	164	:	232	:	340	158	:	:	:	164	06		44	404	62	136	296
 9	6	•			6		•	6	:	2	•	0	43	:	:	:	30	16	:	36	37	107	13	26
 28	28	:	:		61	:	•	28	:	61		:	26	:	:	:	28	29	:	57	26	61	61	*
Q	D	Q	Q	Z	Q	Z	Q	Q	D	Q	Z	D	Q	Z	Z	Z	D	Q	Z	Q	D	Ω	Q	Q
×	M	M	H		M		M	M	M	M		٦	×		:		M	×		Z	×	×	M	M
4-19-56	op	4-17-56	4-18-56	op	op	op	4-17-56	4-19-56	4-11-56	do	do	do	4- 9-56	4-20-56	op	op	4-18-56	4-19-56	4-20-56	op	do	do	. · op · ·	•
15.2	12.6	33.0	17	89.0	17.4	16.7	17.1	9. 5	13.4	27.9	64.6	52.8	2.4	12.0	:	15.0	8.4	16.3	11.6	3,5	4.4	54.8	59.4	•
902	714	757	737	755	765	764	750	724	902	671	670	674	663	730	730	730	747	705	738	719	703	711	712	691
 Mh	Mh	Mh	Mh	ß	ß	Mh	Mh	Mh	Mh	Ms	Kt	Mg	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mh	Mg	Mh	S Mh	ß
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	വ	9	9	ro	9
68.6	59.6	105.1	100	215	31.7	25.2	51.7	71.8	28.2	60.7	192.2	121.8	42.0	78.0	125	61.5	30.9	6.02	33.6	48.3	22.6	127.8	78.3	38.9
Q	А	Д	Д	Ω	Q	Q	Ω	Q	Ω	Q	Q	Q	Ω	Q	Ω	Q	Q	Д	Ω	Д	О	Ω	Q	Q
Edgar Brown		Warren Kent	Bud Copeland	op	Charles Richey	Willingham and Jeffries.	Warren Kent	···· op · · · ·				Warren Kent	Mitchell Drilling Co.	Bud Copeland	op	op	Warren Kent	Edgar Brown			•	Warren Kent		Warren Kent
Mrs. Alta Cooley	Mrs. Quillon Nichols.	W. A. Washburn	S. H. Scoggins	op	M. T. Clark	ор	J. C. Pace	Henry L. Bailey	W. R. Bullingham	John Lee	do	W. W. McWilliams.	G. W. Cantrell	C. C. Hood	op	op	Hattie Bell King	Robert Pirtle	M. E. Mtharp	Eugene Harper	G. E. Hyde	Cecil Green	W. R. Bullington	Alma Wright
09-A	V-61	V-62	V-63	V-64	V-65	99-A	V-67	V-68	69-A	V-70	V-71	V-72	V-73	V-74	V-75	9L-V	V-77	V-78	V-79	V-80	V-81	V-82	V-83	V-84

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Water is cloudy	water is cloudy.	Dry during summer and fall.	Supply inadequate.		Supplies 1 to 4 families.	Supplies 4 families. Electric log in files of U.S. Geol. Survey.	Supplies 6 people,	Supply inadequate.	Casing: 6-in. to 8 ft.; none below. Drilled in 1949.	Supplies 1 family. Drilled in 1948.	Supplies 1 family and store.	Supplies 6 people and 15 head of stock. Casing: 6-in. to 14 ft.; none below.	Estimated yield less than 1 gpm on 11-30-56. Electric log in files of U.S. Geol. Survey. Drilled in 1956.	Observation well. Water reported to have soda taste.	Observation well. Water has a light-blue color and contains soda. Sulfurous.	Casing: 6-in. to 8 ft.; none below.	Supplies 5 people and 8 head of stock. Sulfurous.	Supplies 1 family. Sulfurous. Drilled in 1948.	Supplies 1 family. Sulfurous.	Supplies 5 people. Sulfurous. Drilled in 1955.	Supplies 4 people. Drilled in 1951.	Supplies 5 people and 5 head of stock. Drilled in 1951.	Drilled in 1910.	Supplies 7 people.	
	700	:	114	182	164	150	116	110	216	82	136	:	•	:	46	26	158	298	780	638	352	266		404	
	4	:	26	23	80	13	197	13	23	6	157	:	•	•	323	2	16	43	88	2	2	6	•	30	
5	10	:	:	:	26	59.5	59	57.5	57	57	56.5	:	÷	:	:	61	61	62	62	:	:	:	•	:	
	j	Z	Q	Q	Q	О	Ω	D	Q	Q	Q	S D	z	Z	О	D	S D	Q	Ω	Q	Q	ΩS	z	Q	
>	TAT	:	۳	٦	م	M	×	M	M	M	M	۳	:	•	مر	M	M	M	M	۳	۳	م	:	در	
4-26-56	00-07-1	op	4-25-56	op	4- 9-56	op	op	op	4- 6-56	op	op	4- 9-56	11-30-56	5-23-56	op	92-2-9	6- 4-56	op	10-10-55	10- 6-55	op	op	op	op	
212		4.2	15.7	17.2	11.1	4.6	12.1	8.2	5.7	1.8	1.1	30	14.0	50.1	52	34.7	4.	34.1	24.8	53.7	:		36.4	•	
200	3	200	728	669	650	709	899	655	651	653	642	658	684	601	593	850	486	513	508	208	492	492	492	502	
v.	<u> </u>	S	S	S	S	Mb	ß	Mb	Mb	S	ß	ß	Mh	Mt	Mg	Kt	Mfp	Mg	Mh	Mg	Mg	Mt	Mt	Mg	700
9	>	9	9	9	9	9	9	9	9	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
108.4	•	15.2	150	98.0	104.6	99.4	43.7	51.2	69.6	47.7	26.7	100	284.5	141.5	288	57.0	83.1	74.9	39.5	152	78	19	43.8	:	
0)	Ω	Q	Q	Q	Ω	Q	Q	Q	Ω	Ω	Ω	Д	Ω	Q	Ω	Ω	Q	Ω	Q	Ω	Ω	Q	Ω	
Bud Copeland				Bud Copeland	Chipolet Drilling Co.	op	· · · · · op · · · ·	op	op	Alvin Mitchell		Warren Kent	op	Rhoden Drilling Co.	Bud Copeland	Charles Richey	Morgan Brothers Drilling Co.	Bud Copeland		Bud Copeland	op	Curtis Spangler .	Lavender Drill- ing Co.		
Frank Hvde		···· op · · · ·	James W. Brown	Frank Hyde	George D. Fisher	H. T. Quillon	Eddie Dodson	A. C. Myrick	J. S. Scott	Arthur Isbell	Gordon J. Fuller	Eddie Dodson	City of Littleville	R. D. Ford	E. M. Ford	Edgar Keiser, Sr	Dewey Isbell	Sam Smallwood	W. H. Berryman	Paul Crittenden	J. R. Franks	J. Y. Counts	· · · · · op · · · ·	Henry Chaney	
V-106		V-107	V-108	V-109	V-110	V-111	V-112	V-113	V-114	V-115	V-116	V-117	V-118	W- 1	*W- 2	W- 3	W- 4	W- 5	9 -M	W- 7	8 - M.	W- 9	w-10	W-11	

	Remarks	Supplies 7 people. Sulfurous.	Sulfurous.	Supplies 1 family. Drilled in 1953.	Water reported to have high iron content.		Supplies 6 people.	Supplies 5 people. Sulfurous.	Sulfurous. Drilled in 1956.	Observation well. Sulfurous. Water reported to contain soda.	Water reported to have soda taste.	Water reported to have soda taste. Electric log in files of U.S. Geol. Survey.	Supplies 5 people.	Known as "Barbara Spring." Supplies 12 people. Estimated discharge, 1.5 gpm on 11-1-55.	Supplies 4 people. Drilled in 1952.	Known as "Thompson Spring." Estimated discharge 1 gpm on 11-1-55.	Supplies 1 family.	Supplies 1 family. Casing: 6-in. to 17 ft.; none below.	Supplies 5 people. Drilled in 1946.	Supplies 1 family. Drilled in 1946.	Supplies 2 families.	
inations	Hardness as CaCO3 (ppm)	1, 408	328	596	828	•	2,058	62	302	326	:		118	192	32	16	30	108	496	368	48	
Field determinations	Chloride (Cl)	91	0	20	125	•	09	238	139	3, 361	•	:	23	o	64	ca	13	35	118	20	83	
Field	Temperature (4°)	62	62	•	64	•	62	63	•	62	•		61	64	61	63	63	62	62	62	•	
	Use of water	Q	Q	Q	Q	Z	Q	Q	Q	Q	Z	Z	D	О	D	w	D	Q	Q	Q	Q	
	Method of lift	M	J	J.	M	•	M	M	L.	×	•	•	M	뇬	M	দ	J	Z	Z	ى	٦	
level	Date of meas- urement	10- 7-55	10-10-55	op	op	10- 7-55	ob	6- 4-56	6- 5-56	6- 4-56	5-23-56	op	6-19-56	11- 1-55	6-19-56	11- 1-55	7-22-56	op	6- 5-56	7-24-56	4- 9-56	
Water	ro (+) evodA bnsl woled (1991)eostrus	50.9	43.7	17	16.7	43.6	29.1	46.4	20.1	49.6	10.9	54.3	33.3	:	15.0	· · ·	82.8	47.7	62.9	35.9	86.9	
	bnsi to ebutitiA teet) eastr us	206	497	504	503	202	495	543	489	547	588	597	664	099	673	620	992	745	580	561	770	
	Water-bearing noitemrof	Mg	Mg	Mg	Mg	Mh	Mg	Mt	Mt	Mg	Mg	Mg	Mt	Mh	Mh	Mh	Mh	Mh	Mg	Mt	Mh	
IIe	Diameter of we	9	9	9	2	2	9	9	9	9	9	9	9	:	9	:	9	9	9	9	9	
	Depth of well (feet)	144.5	93.8	46	23.7	47.7	48.7	106.4	85.4	114.8	31.4	343	45.9	:	27.7	:	108.8	62.8	157.9	194.0	112.4	
	Type	Ω	Q	Q	Q	Q	Q	Q	Q	Q	Д	О	Д	w	Q	ω	Q	Q	D	Q	Д	
	Driller		Bud Copeland	Curtis Spangler .	•		Bud Copeland	Fred Thompson .	Bud Copeland	Charles Richey	Bud Copeland				P. J. Chipolet		•		Haden Morgen			
	Owner	Russel McDonald	W. W. McDonald	A. C. Berryman	W. H. Berryman	Lynn Sparks	Price Hardwick	Richard H. Lynn	J. A. Bradford	Grady L. Pace	Howard South	Floyd Chaney	Olen Vandiver	W. C. Looney	Horrace L. Coan	O. C. Thompson	J. G. Burrow	John McClung	Henry Gandy	Ed Reeves	A. C. Allen	
ou a	Well or spring	W-12	W-13	W-14	W-15	W-16	W-17	W-18	W-19	*W-20	W-21	W-22	W-23	W-24	W-25	W-26	W-27	W-28	W-29	.w-30	W-31	

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Casing: 6-in. to 26 ft.; none below. Water reported to have iron taste.	Water reported to have iron taste.	Low in fall.	Supply inadequate.	Supplies 3 people.	Casing: 6-in. to 65 ft.; none below.	Known as "Gin Hollow Spring." Estimated discharge, 1 gpm on 9-15-55.	Supplies 5 people.	Supplies 2 people. Drilled in 1927.	Supplies 3 people.	Supplies 5 people.	Known as "Johnson Spring." Estimated discharge, 5 gpm on 9-15-55.	Supplies 4 people. Casing: 6-in. to 4 ft.; none below.	Supply inadequate for 1 family.	Supplies 1 family.	Supplies 2 to 4 families.	Casing: 6-in, to 8 ft.; none below.	Known as "Gum Spring." Measured discharge, 1.5 gpm on 11-2-55.	Supplies 2 families.	Casing: 6-in. to 16 ft.; none below. Water reported to have copper taste.	Supplies 5 people. Casing: 6-m. to 20 ft.; none below. Drilled in 1955.		Supplies I family. Casing: 6-in. to 20 ft.; none below. Water reported to have copper taste. Drulled in 1955.	Supplies 1 family.	Do.	Do.
34	20	:	40	14	286	10	26	20	30	184	52	62	24	:	09	:	110	99	326	28	28	158	16	20	•
2	20	:	19	9	13	2	9	13	9	87	0	47	2	:	13		23	13	27	26	9	2.2	20	9	
61	61	:	61	62	62	62	62	61	:	63	62	:	62	:	63	:	63	28	63	•	62	62	63	63	
Q	D	Q	D	Q	D	ß	Q	Q	Q	Q	w	Q	D .	D	ΩS	D	w	Д	Q	Q	Z	Q	Ω	D	D
\mathbb{Z}	ь	\mathbb{M}	M	\mathbb{Z}	\mathbb{Z}	[*	\mathbb{Z}	\mathbb{Z}	M	\mathbb{X}	[L	M	M	M	\mathbb{Z}	\mathbb{Z}	[II	\mathbb{Z}	\mathbb{M}	F-5	\mathbb{Z}	\mathbb{Z}	\mathbb{Z}	\mathbb{Z}	M
4- 9-56	7-22-56	op	6-20-56	6-19-56	do	9-15-55	6-19-56	op	do	do	9-15-55	6-20-56	op	op	7-22-56	op	11- 2-55	4- 6-56	7-24-56	4- 6-56	op	7-24-56	op	op	6-20-56
93.5	15.7	14.0	16.4	54.5	83.9	:	54.9	14.8	6.2	8.1	:	28.6	24.9	10.0	23.5	9.99	:	9.9	86.1	34	35.2	52.4	13.1	18.0	12.2
768	743	730	669	200	648	620	029	629	637	599	009	631	655	661	711	727	520	654	929	633	610	635	519	646	611
Mt	Mh	Mh	Mh	Mh	Mg	Mh	Mh	Mh	Mh	Mt	Mh	Mt	Mh	Mh	Mh	Mt	Mh	Mt	Mh	Mh	Mh	Mh	W	Ø	S
9	9	36	9	9	9	•	9	9	9	9	•	9	9	9	9	9		9	9	9	9	9	9	9	9
122.8	32.8	25.9	30.4	84.5	225	:	69.3	25.1	40.0	20.6	•	51.2	46.1	32.3	40.9	102.9	•	:	122.9	108	:	816	34.5	32.9	26.4
Q	Q	Du	Q	D	Q	W	D	Q	D	D	S	Q	Q	D	Q	D	S	Q	Д	Ω	D	Q	Ω	Д	Q
Warren Kent				Bud Copeland	op			Bud Copeland	:	:		Oscar Copeland .							Warren Kent	op		"Varren Kent	do		
H. W. Johnson.	Hattie Potter	B. P. Hatton	R. B. Coan	G. W. Corsby	M. C. Adkın	Thummy Hall	L. J. Vandiver	J. H. Vandiver	Vincent Pace	Charlie Fratwell	Hacker	T. W. Kıdd	Mrs. Bess Aycock .	Mrs. Luttie Kidd	Jim Vandıgrift	W. C. Ganey	A. B. Kırby	Ollie Aycock	H. E. Head	Mello Mayfield	op	J. H. Pennington	R. H. Pennington	Leslie Crosmack	C. E. Allen
W-32	W-33	.W-34	.W-35	W-36	W-37	W-38	W-39	W-40	W-41	W-42	W-43	W-44	W-45	W-46	W-47	W-48	W-49	W-50	W-51	'W-52	W-53	W-54	W-55	96-W	W-57

W-59

Well or spring no.

.W-60

W-62

W-61

W-63

M-65

99-M

X-10

9

	Supplies 3 people. Drilled in 1932.	Drilled in 1936.	Supplies 5 head of stock.			
	104	:	∞	142		
	30	:	0	40		
	62	:	63	:		
	D	z	S	z		
	×	:	Z	×	 	
	6-18-56	op	op	6-19-56		
	20.3	33.5	40.3	7,8		
	617	613	603	572		
	Mh	Mh	Mh	S		
	9	9	8	9		
•	48.2	36.7	71.2	29.1		
	Q	Ω	Q	D		
	Bud Copeland	op	op			
	V. W. Masterson	H. C. Moreland	F. E. Boatwright	Troy Thompson		
	X-12	X-13	X-14	X-15		

Table 2. -- Partial chemical analyses of water from wells and springs in Colbert County, Ala.

Analyses by U.S. Geological Survey.

Water-bearing formations: Mt, Tuscumbia limestone; Mfp, Fort Payne chert; Mg, Gasper formation; Kt, Tuscaloosa group.

Well numbers correspond with those in plate 1 and table 1.

	Нq	6.3	8.0	7.5	7.9	7.5	7.7	7.9	7.4	7.6	7.1	7.2	7.4	7.1	7.2	7.3	7.0	7.9	7.5	7.9	
	Specific condu	14.3	452	454	411	593	328	302	302	298	221	201	290	135	132	122	119	328	370	351	
ss as 03	Non- carbonate	П	45	43	31	87	4	0	12	2	30	0	11	0	2	2	9	14	∞	0	
Hardness CaCO ₃	Total	9	229	228	200	282	170	156	169	156	68	86	106	89	72	09	62	161	180	160	
	Nitrate (NO ₃)	0.1	4.7	8.1	0.	0.	2.5	2.	3.2	3.9	.1	2.4	∞.	φ.	1.2	3.5	2.7	Η.	ω.	0.	
	Fluoride (F)	0.0	د .	2.8	.2	. 5	0.	0.	0.	.1	0.	.2	1.	.1	0.	1.	.1	. 5	7.	1.1	
	Chloride (Cl)	1.2	24	23	7.0	18	2.0	2.0	1.0	1.5	22	2.0	1.0	2.0	1.2	1.5	1.2	6.2	6.0	7.0	
	Sulfate (SO ₄)	1.0	3.0	15	12	106	4.8	4.0	ω.	2.2	16	3.5	.5	1.5	. 5	1.2	.5	21	19	14	
([£] C	Carbonate (Co	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 .	0	0	0		
нсо ³)	Bicarbonate (9	224	225	206	238	202	192	192	184	72	119	116	92	82	70	89	179	210	205	
(Potassium (K	0 0	•	7	•		•	•	•	4	•	6	•	4	•	 &	:	0			
	(sV) muibo2	ô.0	3.8	_ œ	3.8	23	2.3	3.7	1.4	1.	10	 	3.1	- '.9	1.1	1.	1.2	- œ -	111	16	
(SM	1) muizəngsM	•	18	22	2.5	17	3.8	4.6	:	2.2	:	3.2	5.1	3,2	:	3.0		10	11	11	
	Calcium (Ca)	1.0	62	22	92	85	62	22	09	59	27	34	34	22	23	19	17	48	54	46	
	Tron (Fe)	0.01	. 02	00.	.01	00.	00.	00 ·	00.	. 04	00.	00.	. 02	00.	. 01	. 01	00.	00.	00.	. 01	
	Silica (SiO ₂)	•	14	•	11		:		:			:	12	:	:	:	:	:	:	•	
යි	nirsəd-rəwW noilsmrol	Kt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mfp	Mt	Mt	Mfp	
toija	Date of collec	11-22-55	5- 4-56	11-20-56	5- 4-56	11-20-56	5-12-58	5-21-58	11-22-55	11-23-56	11-29-55	11-23-56	5- 4-56	11-23-56	11-22-55	11-23-56	11-22-55	6-18-56	11-23-56	op	
		4	E-10		E-65	Do.	E-68	4	2	Do.	Н-15	H-19	Do.	I- 5	Do.	I-48	Do.	K-21	Do.	က	

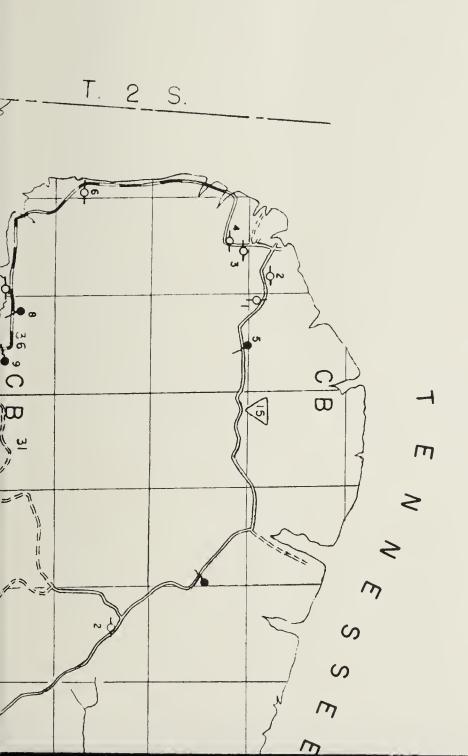
~ «		7.5	7.3	7.4	7.5	7.4	7.6	8.1	9.2	8.4	7.6	8.1	,
346	394	367	224	337	331	331	463	381	3, 590	3, 400	9,400	9, 290	
C	0 4	0	က	4	6	11	7	21	0	0	0	0	
173	204	192	112	170	176	176	242	213	20	20	402	276	
0	2.7		5.9	3.6	4.3	3.1	0.	0.	. 5	9.	15	4.	
	0.	.2		. 2	. 1	0.	6.	.5	7.1	3.6	7.5	6.4	
4		1.5	2.2	4.5	2.8	3.8	7.0	4.0	400	350	2,700	2,520	
	4.2	4.2	3.2	5.5	3.0	5.5	12	13	165	120	290	180	
	0	0	0	0	0	0	0	0	0	20	0	0	
216	244	236	133	202	204	201	287	234	1,550	1,530	1,230	1,360	
		3.0	0.7	2	:		೯				:		
12	3.0	e e	1.5	3.5	3.6	5.5	8.3	3.1	806	858		2,110	
	9.0	4.9	1.2	2.9	:	•	17	13	7.1	9.7	71	46	
48	29	69	43	65	65	62	69	64	8.4	4.0	44	35	
0.01	. 01	. 01	. 23	00.	00.	00.	00.	00.	. 11	00.	00.	.02	
8		:	7.7	:	:	:	:	13	:	:	:	:	
Mfo	Mt	Mt Mfp	Mt	Mt	Mt	Mt	Mt	Mt	Mg	Mg	Mg	Mg	
5- 4-56	4-21-58	9-22-56	4-10-56	11-23-56	11-22-55	11-30-55	11-23-56	5- 4-56	11-23-56	6-18-56	op	11-17-56	
M - 3		M-11	M-20	Do.	Do.	M-23.	M-123	Do.	W- 2	Do.	.W-20	Do.	

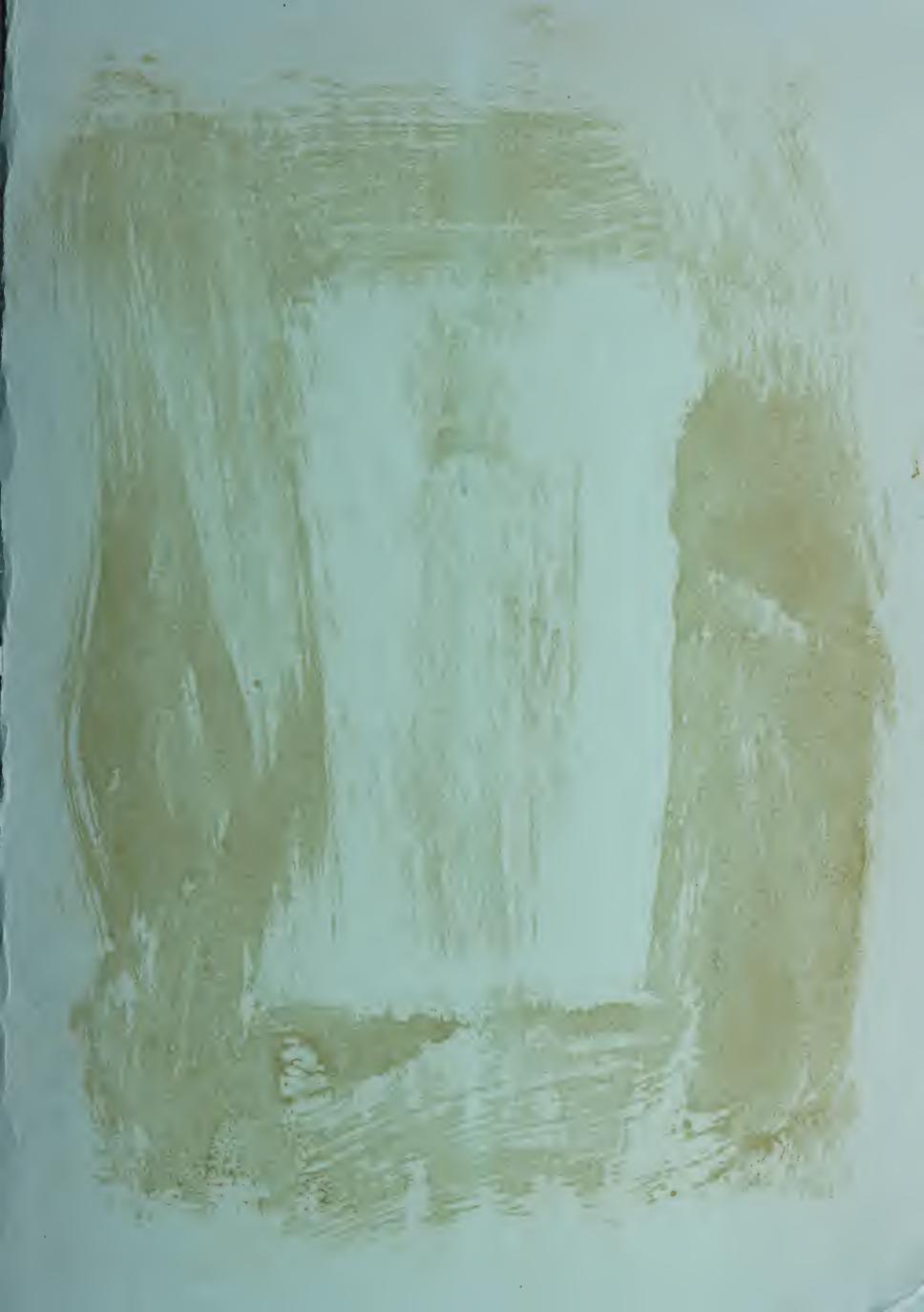


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